

## Фотоэлектрические наблюдения классических цефеид Л.Н. Бердников

Приведены результаты UBVR фотометрии 77 классических цефеид.

## Photoelectric Observations of Classical Cepheids by L.N. Berdnikov

Results of UBVR photometry of 77 classical cepheids are given.

В 1981–84 гг. на 60-см и 48-см рефлекторах высокогорной Майда-накской экспедиции АИ АН УзССР были получены фотоэлектрические UBVR наблюдения 77 классических цефеид. Использовались электрофотометры, работающие в режиме счета импульсов, с выводом результатов на цифropечатающее устройство. Описание фотометрических систем электрофотометров дано в работах Филиппева (1978) и Закирова и Шевченко (1982).

### 1. Стандартные звезды.

В начале наблюдения проводились только в фильтрах В и V, и в качестве стандартных были выбраны 50 звезд из каталога Хога и др. (1961), рассеянных вдоль полосы Млечного Пути от Стрельца до Возничего. С 1983 года наблюдения стали проводиться и в фильтрах U и R, и потребовались другие стандарты, т.к. у Хога приведены только величины UBV.

Новые стандартные звезды были взяты из экваториальных площадок SA (Ландольт, 1973, 1983). UBV наблюдения Ландольта сделаны в системе Джонсона, а R – в фильтрах, представляющих собой кейпский вариант системы Крона (Кузинс, 1976). А т.к. большинство опубликованных наблюдений цефеид выполнено в системе UBVR Джонсона, то показатели цвета V–R были переведены именно в эту систему. Формула для перевода была получена Ландольтом (1983) по 189 общим звездам, которые Мофет и Бэрнс (1979) пронаблюдали в системе Джонсона:

$$(V-R)_J = [(V-R)_L + 0.03206] / 0.71652.$$

Тридцать измеренных звезд из площадок SA 106–113 показали небольшое ( $< 0.01$ ) отличие от стандартных величин, и в дальнейшем к ним были привязаны звезды Хога и еще 66 звезд вблизи цефеид. UBVR–величины всех стандартных звезд приведены в табл. 2, где номера даются по Хогу (NGC), Ландольту (SA) и по каталогам SAO или BD; N означает число наблюдений данной звезды.

## 2. Учет нелинейности регистрирующей аппаратуры.

Учет нелинейности пересчетного устройства проводился по формуле:

$$N = N_1 \cdot (1 + k \cdot N_1), \quad (1)$$

где  $N$  и  $N_1$  — истинный и регистрируемый отсчеты,  $k$  — коэффициент нелинейности. Для определения  $k$  использовались следующие соображения. Пусть  $N_1$  и  $N_2$  — зарегистрированные отсчеты на близкую к яркому пределу звезду (плюс фон неба), а  $n_1$  и  $n_2$  — на фон неба при полностью и частично открытом зеркале телескопа соответственно. Тогда отношение истинных отсчетов при частично и полностью открытом зеркале должно равняться отношению соответствующих открытых площадей зеркала  $A_s^*$ , т.е. применяя для отсчетов на звезду формулу (1) и учитывая, что отсчеты на фон находятся в области линейности, можно записать:

$$\frac{N_1 \cdot (1 + k \cdot N_1) - n_1}{N_2 \cdot (1 + k \cdot N_2) - n_2} = A_s. \quad (2)$$

откуда

$$k = \frac{A_s \cdot (N_2 - n_2) - (N_1 - n_1)}{N_1^2 - A_s \cdot N_2^2}. \quad (3)$$

Фон здесь надо учитывать из-за того, что для экрана, закрывающего часть зеркала, коэффициент отражения не равен нулю, и поэтому, в общем случае  $n_1 = A_s \cdot n_2$ .

Применение формулы (3) дало следующие результаты: для 60-см телескопа  $k = (7.5 \pm 0.6) \cdot 10^{-7}$ , для 48-см телескопа  $k = (14.0 \pm 0.8) \cdot 10^{-7}$ .

## 3. Учет атмосферной экстинкции.

Для данного зенитного расстояния  $z$  воздушная масса  $M$  вычислялась как  $\sec z$ . Рекомендованная в руководствах по обработке фотоэлектрических наблюдений (Чугайнов, 1971; Страйжис, 1977) громоздкая формула непригодна для вычислений воздушных масс в условиях высокогорья (Харди, 1967; стр. 160).

\*) При диафрагмировании зеркала изменяется и размер его изображения на фотокатоде, поэтому, чтобы избежать влияния эффекта неравномерной чувствительности поверхности фотокатода, следует предварительно измерить отношение потоков при частично и полностью открытом зеркале телескопа для звезды, отсчеты на которую заведомо лежат в области линейности, и именно это отношение принять за  $A_s$ , то есть для определения  $A_s$  надо отсчеты на слабую звезду подставить в формулу при  $K=0$ ; при этом автоматически учитывается влияние возможной неоднородности отражательной способности зеркала телескопа.

Вынос за атмосферу инструментальных величин  $v$  и показателей цвета  $(u-b)$ ,  $(b-v)$ ,  $(v-r)$  производился по формулам:

$$\begin{aligned} v_0 &= v - \alpha_v \cdot M \\ (u-b)_0 &= (u-b) - [\alpha_{u-b} + \beta_{u-b} \cdot (u-b)] \cdot M \cdot (1 + \phi_{u-b} \cdot M) \\ (b-v)_0 &= (b-v) - [\alpha_{b-v} + \beta_{b-v} \cdot (b-v)] \cdot M \cdot (1 + \phi_{b-v} \cdot M) \\ (v-r)_0 &= (v-r) - \alpha_{v-r} \cdot M, \end{aligned} \quad (4)$$

где  $v_0$ ,  $(u-b)_0$ ,  $(b-v)_0$ ,  $(v-r)_0$  — заатмосферные величины и показатели цвета;  $\alpha$  — коэффициенты экстинкции для звезды с показателем цвета, равным нулю;  $\beta$  — приращения коэффициентов экстинкции для звезды с показателем цвета, равным единице;  $M$  — воздушные массы;  $\phi$  — коэффициенты Форбса.

Для вычислений были приняты следующие значения постоянных коэффициентов:  $\beta_{u-b} = -0.01$ ,  $\beta_{b-v} = -0.03$  (Харди, 1967),  $\phi_{u-b} = -0.028$ ,  $\phi_{b-v} = -0.02$  (Страйжис, 1977).

Для определения коэффициентов экстинкции  $\alpha$  применялся метод Никонова (1944). Для измерения экстинкции в различные сезоны использовались разные звезды (см. табл. 2). В июле–августе для этих целей служила звезда 3 NGC 6910, а вспомогательными — для уточнения ее заатмосферной величины и показателей цвета — звезды SAO 46053, BD +40°3010 и BD +40°3009. В июне звезда 3 NGC 6910 вечером находится слишком низко над горизонтом, поэтому в первую половину ночи для измерения экстинкции использовалась одна из вспомогательных звезд (обычно SAO 46053). Т.к. в процессе обработки определяется ее заатмосферная величина и показатели цвета, то к набору значений экстинкции по наблюдениям основной звезды можно добавить значения, определяемые по наблюдениям дополнительной звезды. В осенние месяцы основной звездой для определения экстинкции (в первой половине ночи) служила все та же звезда 3 NGC 6910, а в качестве вспомогательных использовались звезды 1 NGC 225, 4 NGC 225, 5 NGC 225, 6 NGC 225; во второй половине ночи основная звезда опускалась очень низко, и экстинкция определялась по наблюдениям одной из дополнительных звезд (1 NGC 225 или 6 NGC 225). В зимние месяцы основной звездой служила звезда 4 NGC 1664, а в качестве дополнительных звезд использовались звезды из NGC 225 или SAO 36675 и SAO 36697, в зависимости от того, когда начинались наблюдения — с вечера или со второй половины ночи.

#### 4. Определение коэффициентов трансформации.

Так как отличия инструментальной от стандартной системы UBVR невелико, то связь между ними дается линейными уравнениями:

$$\begin{aligned} V &= v_0 + \eta_v + \xi_v \cdot (B-V) \\ U-B &= \eta_{u-b} + \xi_{u-b} \cdot (u-b)_0 \\ B-V &= \eta_{b-v} + \xi_{b-v} \cdot (b-v)_0 \\ V-R &= \eta_{v-r} + \xi_{v-r} \cdot (v-r)_0, \end{aligned} \quad (5)$$

где неизвестными являются коэффициенты трансформации  $\eta$  и  $\xi$ . Для их определения использовались лучшие фотометрические ночи. Затем в пределах одного наблюдательного сезона коэффициенты  $\xi$  усреднялись, и для каждой ночи данного сезона с этими средними  $\xi$  вычислялись значения нуль-пунктов  $\eta$ .

Полученные средние значения  $\xi$  и их ошибки приведены в табл. 1, где  $N$  означает число ночей, использованных для их определения. На 60-см телескопе всегда использовалась одна и та же аппаратура, и коэффициенты  $\xi$  для всех сезонов в пределах ошибок совпадают, поэтому в табл. 2 для каждого  $\xi$  приводится одно усредненное значение. На 48-см телескопе 2 раза менялся ФЗУ, поэтому коэффициенты  $\xi$  приведены для каждого сезона отдельно.

##### 5. Дифференциальные наблюдения.

По разным причинам не всегда удавалось измерять коэффициенты экстинкции, поэтому для ряда ночей производились дифференциальные измерения. Если объединить (4) и (5), а в полученные формулы подставить наблюдения программных и стандартных звезд и вычесть из первых вторые, то получим с учетом принятых значений  $\beta$  и  $\phi$ :

$$\begin{aligned} V &= V_{CT} + (v - v_{CT}) - a_V \cdot (M - M_{CT}) + \xi_V \cdot [(B - V) - (B - V)_{CT}] \\ U - B &= (U - B)_{CT} + \xi_{U-B} \cdot \{(u - b) - (u - b)_{CT} - [L_{U-B} - 0.01 \cdot (u - b)] \cdot \\ &\quad \cdot M \cdot (1 - 0.028 \cdot M) + [L_{U-B} - 0.01 \cdot (u - b)_{CT}] \cdot M_{CT} \cdot (1 - 0.028 \cdot M_{CT})\} \\ B - V &= (B - V)_{CT} + \xi_{B-V} \cdot \{(b - v) - (b - v)_{CT} - [a_{B-V} - 0.03 \cdot (b - v)] \cdot \\ &\quad \cdot M \cdot (1 - 0.02 \cdot M) + [a_{B-V} - 0.03 \cdot (b - v)_{CT}] \cdot M_{CT} \cdot (1 - 0.02 \cdot M_{CT})\} \\ V - R &= (V - R)_{CT} + \xi_{V-R} \cdot [(v - r) - (v - r)_{CT} - a_{V-R} \cdot (M - M_{CT})], \end{aligned}$$

где коэффициенты экстинкции  $a$  — средние для сезона (Желёзнякова, 1984).

##### 6. Результаты обработки наблюдений.

В соответствии с методикой наблюдений были написаны два варианта программы (на язык ФОРТРАН РАФОС) обработки: для ночей с измерениями коэффициентов экстинкции (методом Никонова) и для ночей с дифференциальными измерениями. Все наблюдения были обработаны на мини-ЭВМ "Электроника 100-25". Результаты обработки каждой ночи записывались в специальный файл, затем наблюдения группировались по звездам, и все наблюдения каждой звезды расставлялись в порядке возрастания  $JD$ . Распечатка файла, содержащего наблюдения, приведена в табл. 3.

Точность наблюдений оценивалась по измерениям постоянных звезд. Для  $V$ ,  $U-B$ ,  $B-V$  и  $V-R$  среднеквадратичные ошибки одного наблюдения (в интервале блеска  $V$  от 7<sup>m</sup> до 14<sup>m</sup>) составляют 0.<sup>m</sup>007, 0.<sup>m</sup>012, 0.<sup>m</sup>006 и 0.<sup>m</sup>008 соответственно.

В заключение хочется выразить благодарность зав. отделом переменных звезд АИ АН УзССР В.С.Шевченко за предоставленную возможность наблюдать на телескопах ВМЭ, Г.Ш.Ройзману за много-

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ТАБЛИЦА 1

| СЕЗОН             | ТЕЛЕСКОП | $\xi_V$ | $\xi_{U-B}$ | $\xi_{B-V}$ | $\xi_{V-R}$ | N  |
|-------------------|----------|---------|-------------|-------------|-------------|----|
| 08.08.81-07.01.84 | 60-СМ    | 0.014   | 0.959       | 1.095       | 1.068       | 24 |
|                   |          | 0.002   | 0.004       | 0.002       | 0.002       |    |
| 01.06.83-29.06.83 | 48-СМ    | 0.068   | 0.993       | 0.928       | 1.071       | 4  |
|                   |          | 0.005   | 0.008       | 0.006       | 0.007       |    |
| 05.11.83-09.11.83 | 48-СМ    | 0.071   | 1.039       | 0.937       | 1.057       | 2  |
|                   |          | 0.007   | 0.012       | 0.006       | 0.008       |    |
| 10.11.83-18.12.83 | 48-СМ    | 0.050   | 0.983       | 0.970       | 1.116       | 7  |
|                   |          | 0.004   | 0.006       | 0.005       | 0.005       |    |



СТАНДАРТНЫЕ ЗВЕЗДЫ

| ЗВЕЗДА      | ALFA     | DELTA     | V      | U-B    | B-V    | V-R    | N  |
|-------------|----------|-----------|--------|--------|--------|--------|----|
| 1985        |          |           |        |        |        |        |    |
| SAO 21157   | 00 09 30 | 58 44 50  | 9.122  | 1.516  | 1.369  | 0.693  | 7  |
| SAO 21458   | 00 29 29 | 60 06 07  | 9.280  | -0.134 | 0.458  | 0.297  | 13 |
| 5 NGC 225   | 00 43 02 | 61 39 35  | 9.873  | 0.396  | 0.960  | 0.570  | 36 |
| 4 NGC 225   | 00 43 05 | 61 40 34  | 9.709  | 1.887  | 1.670  | 0.904  | 34 |
| 9 NGC 225   | 00 43 15 | 61 40 50  | 10.343 | 0.075  | 0.553  | 0.371  | 29 |
| 7 NGC 225   | 00 43 44 | 61 40 11  | 10.166 | -0.058 | 0.179  | 0.098  | 2  |
| 1 NGC 225   | 00 43 47 | 61 43 48  | 9.285  | -0.213 | 0.143  | 0.091  | 28 |
| 6 NGC 225   | 00 43 48 | 61 48 21  | 10.006 | -0.006 | 0.149  | 0.081  | 19 |
| SAO 36675   | 00 47 30 | 43 36 06  | 9.256  | 0.128  | 0.077  | 0.017  | 26 |
| SAO 36697   | 00 48 45 | 43 32 51  | 9.082  | 0.041  | 0.327  | 0.200  | 26 |
| SAO 22427   | 01 35 26 | 57 34 42  | 8.460  | 0.144  | 0.560  | 0.334  | 8  |
| SAO 22947   | 02 06 50 | 57 38 31  | 8.432  | 1.302  | 1.276  | 0.680  | 11 |
| SAO 23366   | 02 28 01 | 59 22 51  | 9.302  | 0.193  | 0.459  | 0.271  | 7  |
| BD+51 648   | 02 53 05 | 51 58 47  | 9.555  | -0.059 | 0.281  | 0.172  | 10 |
| SAO 12777   | 03 27 51 | 60 30 38  | 9.530  | 0.004  | 0.545  | 0.328  | 11 |
| BD+58 667   | 03 54 36 | 58 32 55  | 9.899  | 0.343  | 0.510  | 0.294  | 10 |
| 7 NGC 1545  | 04 19 11 | 50 13 29  | 10.578 | -      | 0.403  | -      | 2  |
| 6 NGC 1545  | 04 19 16 | 50 13 13  | 10.325 | -      | 0.374  | -      | 14 |
| 5 NGC 1545  | 04 19 34 | 50 12 52  | 9.271  | -      | 0.216  | -      | 1  |
| BD+45 930   | 04 24 10 | 45 49 02  | 9.490  | 2.253  | 1.914  | 1.091  | 9  |
| BD+48 1098  | 04 27 30 | 48 33 47  | 9.576  | -0.393 | 0.547  | 0.364  | 11 |
| SAO 39640   | 04 35 54 | 47 43 47  | 9.064  | 0.073  | 0.623  | 0.376  | 8  |
| 3 NGC 1664  | 04 48 28 | 43 35 39  | 8.886  | 2.238  | 1.782  | 1.062  | 27 |
| BD+41 969   | 04 48 45 | 42 11 39  | 10.536 | 0.377  | 0.403  | 0.226  | 10 |
| 5 NGC 1664  | 04 48 52 | 43 36 38  | 9.993  | 0.765  | 1.090  | 0.594  | 21 |
| 6 NGC 1664  | 04 49 12 | 43 29 30  | 10.157 | -0.003 | 0.163  | 0.103  | 10 |
| 7 NGC 1664  | 04 49 31 | 43 26 59  | 10.283 | -0.216 | 0.158  | 0.127  | 8  |
| 4 NGC 1664  | 04 49 48 | 43 28 05  | 8.867  | 0.065  | 0.146  | 0.079  | 27 |
| ANON        | 04 52 31 | 39 54 47  | 10.161 | 0.875  | 1.086  | 0.584  | 7  |
| SAO 57507   | 04 54 50 | 30 18 57  | 7.587  | 0.179  | 0.123  | 0.063  | 10 |
| BD+40 1115  | 04 57 34 | 40 53 31  | 9.354  | 1.055  | 1.597  | 0.863  | 8  |
| SAO 40090   | 05 10 24 | 42 43 54  | 8.278  | -0.324 | 0.008  | 0.026  | 9  |
| BD+41 1114  | 05 12 11 | 42 09 14  | 10.084 | 0.896  | 1.123  | 0.602  | 10 |
| SAO 40163   | 05 14 07 | 40 07 01  | 8.140  | 1.968  | 1.796  | 1.337  | 8  |
| SAO 132307  | 05 34 24 | -06 34 18 | 8.892  | -0.205 | -0.059 | -0.034 | 8  |
| BD+26 887   | 05 38 35 | 26 45 58  | 10.519 | 0.188  | 0.478  | 0.325  | 8  |
| SAO 95137   | 06 01 04 | 16 34 05  | 8.976  | 0.546  | 0.919  | 0.506  | 7  |
| SAO 77960   | 06 05 28 | 26 31 43  | 7.698  | 0.579  | 0.926  | 0.488  | 6  |
| SAO 95265   | 06 07 09 | 18 40 24  | 8.953  | 0.083  | 0.078  | 0.021  | 9  |
| SAO 113824  | 06 23 26 | 07 04 55  | 8.693  | 0.088  | 0.041  | -0.005 | 9  |
| BD+10 1154  | 06 29 14 | 10 20 06  | 7.886  | 1.758  | 1.425  | 0.744  | 8  |
| SAO 152315  | 07 03 33 | -10 33 05 | 10.409 | 0.008  | 0.002  | -0.016 | 10 |
| SAO 152320  | 07 03 43 | -10 25 51 | 9.119  | 1.035  | 1.124  | 0.575  | 9  |
| ANON        | 07 20 20 | -21 28 56 | 10.546 | -      | -0.016 | 0.019  | 3  |
| ANON        | 07 25 04 | -25 16 10 | 9.960  | 0.989  | 1.209  | 0.648  | 6  |
| SAO 173970  | 07 32 07 | -20 45 32 | 8.488  | 0.052  | 0.412  | 0.264  | 5  |
| SAO 174178  | 07 37 40 | -28 23 58 | 9.276  | -0.149 | -0.058 | -0.042 | 6  |
| ANON        | 07 47 37 | -25 51 13 | 8.808  | -0.496 | -0.114 | -0.067 | 6  |
| SAO 174887  | 07 57 22 | -27 47 41 | 8.072  | 0.032  | 0.461  | 0.275  | 6  |
| SAO 174941  | 07 58 46 | -29 18 37 | 8.407  | 0.011  | 0.525  | 0.276  | 5  |
| SAO 175810  | 08 25 14 | -30 01 01 | 8.696  | 1.607  | 1.349  | 0.738  | 5  |
| 1250 SA 106 | 14 40 41 | 00 10 06  | 8.123  | 0.832  | 1.029  | 0.532  | 2  |

| ЗВЕЗДА      | ALFA     | DELTA     | V      | U-B    | B-V    | V-R   | N   |
|-------------|----------|-----------|--------|--------|--------|-------|-----|
| 1985        |          |           |        |        |        |       |     |
| 575 SA 106  | 14 40 53 | 00 22 12  | 9.341  | 1.483  | 1.308  | 0.672 | 21  |
| 485 SA 106  | 14 43 28 | 00 33 20  | 9.484  | -0.039 | 0.380  | 0.232 | 21  |
| 544 SA 107  | 15 36 03 | 00 12 14  | 9.037  | 0.156  | 0.401  | 0.233 | 20  |
| 684 SA 107  | 15 36 31 | 00 06 51  | 8.433  | 0.072  | 0.619  | 0.356 | 20  |
| 35 SA 107   | 15 36 42 | 00 50 10  | 7.779  | 1.309  | 1.275  | 0.663 | 19  |
| 1006 SA 107 | 15 37 48 | 00 17 16  | 11.715 | 0.285  | 0.764  | 0.440 | 20  |
| 347 SA 107  | 15 37 50 | 00 33 01  | 9.443  | 1.299  | 1.296  | 0.713 | 20  |
| BD+40 3009  | 16 21 41 | 39 54 25  | 9.894  | 0.074  | 0.541  | 0.317 | 122 |
| BD+40 3010  | 16 21 44 | 40 03 20  | 9.557  | 0.819  | 1.035  | 0.547 | 122 |
| SAO 46053   | 16 21 51 | 40 11 50  | 8.627  | 0.559  | 0.895  | 0.484 | 122 |
| SAO 184452  | 16 31 33 | -26 06 29 | 10.417 | -      | 0.581  | -     | 10  |
| 1332 SA 108 | 16 34 35 | 00 02 18  | 9.199  | 0.087  | 0.384  | 0.228 | 14  |
| 702 SA 108  | 16 35 12 | 00 22 57  | 8.208  | 0.021  | 0.559  | 0.319 | 14  |
| 475 SA 108  | 16 36 14 | 00 32 53  | 11.308 | 1.464  | 1.379  | 0.741 | 14  |
| 1491 SA 108 | 16 36 28 | 00 00 54  | 9.059  | 0.620  | 0.965  | 0.534 | 14  |
| 827 SA 108  | 16 36 36 | 00 27 54  | 7.964  | 1.413  | 1.303  | 0.682 | 14  |
| 747 SA 109  | 17 44 05 | 00 07 45  | 8.477  | 0.243  | 0.305  | 0.187 | 13  |
| 231 SA 109  | 17 44 34 | 00 25 31  | 9.331  | 1.600  | 1.462  | 0.786 | 10  |
| 1082 SA 109 | 17 44 43 | 00 04 38  | 9.017  | 0.344  | 0.802  | 0.455 | 12  |
| 537 SA 109  | 17 44 56 | 00 21 15  | 10.358 | 0.229  | 0.608  | 0.377 | 12  |
| 3 NGC 6531  | 18 03 17 | -22 29 49 | 8.767  | -0.673 | -0.023 | 0.027 | 7   |
| 4 NGC 6531  | 18 03 17 | -22 25 46 | 9.217  | -0.579 | 0.020  | 0.045 | 9   |
| 1 NGC 6531  | 18 03 18 | -22 30 11 | 7.263  | -0.814 | -0.044 | 0.006 | 7   |
| 5 NGC 6531  | 18 03 30 | -22 29 30 | 9.920  | -0.567 | 0.015  | 0.042 | 9   |
| 45 NGC 6530 | 18 03 33 | -24 19 02 | 7.660  | 0.150  | 0.876  | 0.648 | 52  |
| 35 NGC 6530 | 18 03 40 | -24 20 00 | 8.584  | -0.721 | 0.102  | 0.113 | 19  |
| 88 NGC 6530 | 18 03 40 | -24 26 55 | 8.629  | 0.034  | 0.576  | 0.360 | 16  |
| 10 NGC 6611 | 18 17 31 | -13 51 52 | 9.872  | -      | 0.484  | -     | 11  |
| 7 NGC 6611  | 18 17 49 | -13 45 01 | 9.492  | -      | 0.854  | -     | 18  |
| 9 NGC 6611  | 18 17 55 | -13 45 56 | 9.849  | -      | 0.609  | -     | 5   |
| BD+ 0 3942  | 18 27 05 | 00 14 18  | 10.730 | 0.202  | 0.533  | 0.340 | 20  |
| ANON        | 18 27 10 | 00 15 18  | 11.357 | -0.002 | 0.582  | 0.362 | 20  |
| 471 SA 110  | 18 40 42 | 00 33 01  | 7.474  | 1.710  | 1.449  | 0.767 | 56  |
| 340 SA 110  | 18 40 43 | 00 14 28  | 10.023 | 0.123  | 0.301  | 0.169 | 33  |
| 353 SA 110  | 18 41 31 | 00 08 24  | 8.447  | 2.292  | 2.002  | 1.186 | 43  |
| 5 NGC 6709  | 18 50 16 | 10 16 49  | 10.308 | -0.191 | 0.180  | 0.115 | 5   |
| 1 NGC 6709  | 18 50 28 | 10 16 57  | 9.012  | 1.093  | 1.315  | 0.696 | 37  |
| 2 NGC 6709  | 18 50 53 | 10 18 04  | 9.075  | 1.576  | 1.543  | 0.805 | 5   |
| SAO 104548  | 19 09 19 | 12 26 56  | 9.035  | -      | 1.474  | 0.764 | 2   |
| 2 NGC 6802  | 19 29 32 | 20 17 46  | 9.915  | 0.159  | 0.243  | 0.117 | 4   |
| 1 NGC 6802  | 19 29 35 | 20 17 55  | 9.083  | 0.770  | 1.068  | 0.569 | 35  |
| 3 NGC 6802  | 19 30 07 | 20 09 49  | 10.580 | 0.066  | 0.598  | 0.352 | 4   |
| BD+18 4139  | 19 34 34 | 19 10 23  | 10.388 | 0.032  | 0.569  | 0.330 | 7   |
| 717 SA 111  | 19 36 09 | 00 05 29  | 8.529  | 0.224  | 0.425  | 0.236 | 5   |
| 2522 SA 111 | 19 36 19 | 00 35 31  | 9.706  | -0.409 | 0.164  | 0.121 | 5   |
| 1969 SA 111 | 19 36 58 | 00 23 44  | 10.364 | 2.304  | 1.961  | 1.181 | 5   |
| 1496 SA 111 | 19 37 36 | 00 18 39  | 7.210  | 0.113  | 0.278  | 0.154 | 5   |
| 2864 SA 111 | 19 38 02 | 00 34 16  | 8.292  | 2.017  | 1.716  | 0.933 | 5   |
| SAO 87726   | 19 46 60 | 26 14 36  | 9.537  | -      | 0.827  | 0.471 | 2   |
| BD+26 3672  | 19 47 34 | 27 19 00  | 10.088 | 0.177  | 0.650  | 0.376 | 4   |
| SAO 68762   | 19 50 37 | 32 33 23  | 9.507  | 0.202  | 0.602  | 0.382 | 4   |
| SAO 105388  | 19 52 59 | 12 42 57  | 9.530  | -      | 0.410  | 0.246 | 3   |

| ЗВЕЗДА      | ALFA     | DELTA    |        |        | V      | U-B    | B-V | V-R | N |
|-------------|----------|----------|--------|--------|--------|--------|-----|-----|---|
| 1985        |          |          |        |        |        |        |     |     |   |
| BD+31 3851  | 19 55 47 | 36 51 13 | 8.644  | 1.559  | 1.387  | 0.718  | 10  |     |   |
| SAO 88006   | 19 57 53 | 27 28 04 | 8.092  | -      | 1.543  | 0.799  | 2   |     |   |
| BD+39 4018  | 20 02 48 | 39 36 04 | 8.546  | 1.299  | 1.265  | 0.646  | 7   |     |   |
| BD+40 4123  | 20 19 52 | 41 20 54 | 10.335 | 0.106  | 0.084  | 0.026  | 10  |     |   |
| 7 NGC 6910  | 20 22 35 | 40 43 22 | 10.381 | -0.182 | 0.819  | 0.557  | 15  |     |   |
| 3 NGC 6910  | 20 27 38 | 40 49 32 | 8.522  | -0.188 | 0.910  | 0.644  | 324 |     |   |
| 6 NGC 6910  | 20 22 39 | 40 42 37 | 10.290 | -0.058 | 0.912  | 0.618  | 91  |     |   |
| 4 NGC 6910  | 20 22 43 | 40 42 03 | 9.991  | -0.005 | 0.442  | 0.273  | 20  |     |   |
| BD+41 3732  | 20 22 49 | 42 12 08 | 9.389  | -0.141 | -0.023 | -0.009 | 10  |     |   |
| SAO 32917   | 20 48 43 | 58 41 21 | 7.788  | 0.608  | 0.918  | 0.504  | 6   |     |   |
| SAO 50286   | 20 57 14 | 44 07 08 | 8.639  | 0.208  | 0.151  | 0.090  | 11  |     |   |
| SAO 50790   | 21 23 13 | 45 18 56 | 9.467  | 1.209  | 1.191  | 0.615  | 7   |     |   |
| 442 SA 113  | 21 39 54 | 00 40 37 | 9.650  | 1.251  | 1.163  | 0.605  | 3   |     |   |
| 475 SA 113  | 21 41 05 | 00 35 11 | 10.306 | 0.841  | 1.057  | 0.569  | 3   |     |   |
| 267 SA 113  | 21 41 10 | 00 16 37 | 7.653  | 0.013  | 0.488  | 0.291  | 3   |     |   |
| 269 SA 113  | 21 41 15 | 00 13 35 | 9.482  | 1.054  | 1.112  | 0.572  | 3   |     |   |
| 276 SA 113  | 21 41 41 | 00 22 14 | 9.074  | 0.181  | 0.647  | 0.357  | 3   |     |   |
| ANON        | 21 41 48 | 66 03 36 | 9.781  | 0.775  | 1.023  | 0.539  | 8   |     |   |
| BD+46 3474  | 21 52 56 | 47 01 39 | 9.635  | -0.049 | 0.819  | 0.554  | 9   |     |   |
| SAO 33927   | 21 57 47 | 56 11 28 | 8.939  | 0.376  | 0.470  | 0.263  | 7   |     |   |
| SAO 52140   | 22 32 54 | 40 44 27 | 8.552  | 0.820  | 1.067  | 0.560  | 6   |     |   |
| SAO 34701   | 22 42 17 | 56 35 21 | 8.819  | 0.782  | 1.063  | 0.567  | 10  |     |   |
| SAO 20533   | 23 16 16 | 60 50 32 | 9.332  | 1.210  | 1.331  | 0.709  | 8   |     |   |
| SAO 20583   | 23 20 58 | 62 44 31 | 8.320  | 1.063  | 1.139  | 0.599  | 10  |     |   |
| SAO 20651   | 23 27 37 | 63 18 38 | 8.328  | 0.196  | 0.465  | 0.260  | 10  |     |   |
| 17 NGC 7686 | 23 28 31 | 49 03 54 | 11.912 | -      | 1.345  | -      | 2   |     |   |
| 13 NGC 7686 | 23 28 34 | 48 53 34 | 11.416 | -      | 0.486  | -      | 2   |     |   |
| 14 NGC 7686 | 23 28 41 | 49 03 25 | 11.559 | -      | 0.942  | -      | 2   |     |   |
| 3 NGC 7686  | 23 28 43 | 49 09 03 | 8.932  | -      | 1.219  | -      | 2   |     |   |
| 10 NGC 7686 | 23 28 56 | 49 03 00 | 11.081 | -      | 1.380  | -      | 2   |     |   |
| 2 NGC 7686  | 23 28 56 | 49 01 27 | 7.745  | -      | 0.946  | -      | 2   |     |   |
| 9 NGC 7686  | 23 28 59 | 48 06 02 | 11.103 | -      | 1.727  | -      | 2   |     |   |
| 16 NGC 7686 | 23 29 02 | 48 05 04 | 11.656 | -      | 0.346  | -      | 2   |     |   |
| 5 NGC 7686  | 23 29 08 | 48 55 24 | 10.241 | -      | 0.433  | -      | 2   |     |   |
| 4 NGC 7686  | 23 29 10 | 48 06 00 | 9.529  | -      | 0.987  | -      | 2   |     |   |
| 6 NGC 7686  | 23 29 18 | 49 12 04 | 10.359 | -      | 0.196  | -      | 2   |     |   |
| 12 NGC 7686 | 23 29 20 | 48 57 29 | 11.399 | -      | 0.724  | -      | 2   |     |   |
| 11 NGC 7686 | 23 29 22 | 48 04 39 | 11.208 | -      | 0.367  | -      | 2   |     |   |
| 8 NGC 7686  | 23 29 24 | 49 05 25 | 10.871 | -      | 1.270  | -      | 2   |     |   |
| 15 NGC 7686 | 23 29 29 | 49 04 40 | 11.536 | -      | 0.664  | -      | 2   |     |   |
| 7 NGC 7686  | 23 29 32 | 49 04 24 | 10.378 | -      | 1.254  | -      | 2   |     |   |
| BD+57 2824  | 23 51 10 | 58 37 37 | 9.724  | 0.127  | 0.320  | 0.205  | 11  |     |   |
| ANON        | 23 54 45 | 54 09 41 | 10.122 | 0.770  | 1.085  | 0.592  | 10  |     |   |



ТАБЛИЦА 3

| JD HEL<br>2400000+ | V      | U-R   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | R-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| SZ AQL             |        |       |       |       | EV AQL             |        |       |       |       |
| 45502.3359         | 8.927  | 1.171 | 1.535 | 1.228 | 45498.2772         | 0.929  | 1.411 | 1.217 |       |
| 45503.3242         | 8.518  | 0.879 | 1.298 | 1.108 | 45501.3242         | 11.566 | 0.921 | 1.396 | 1.225 |
| 45505.3163         | 8.126  | 0.847 | 1.205 | 1.020 | 45502.3006         | 11.590 | 1.048 | 1.374 | 1.246 |
| 45508.3046         | 8.425  | 1.097 | 1.474 | 1.171 | 45503.3203         | 11.622 | 1.030 | 1.384 | 1.248 |
| 45509.3320         | 8.523  | 1.196 | 1.541 | 1.209 | 45505.3046         | 11.644 | 1.126 | 1.495 | 1.235 |
| 45512.3397         | 8.890  |       | 1.731 | 1.298 | 45508.2968         | 11.728 |       | 1.597 | 1.283 |
| 45513.3905         | 9.012  |       | 1.791 | 1.318 | 45509.3242         | 11.805 |       | 1.590 |       |
| 45514.3359         | 9.116  |       | 1.775 | 1.343 | 45512.3280         | 11.858 | 1.247 | 1.669 | 1.336 |
| 45648.1093         | 8.697  | 1.418 | 1.641 | 1.270 | 45513.3476         | 11.889 |       |       | 1.358 |
| 45650.1171         | 8.955  | 1.598 | 1.773 | 1.330 | 45514.3203         | 11.966 |       | 1.726 |       |
| 45872.3593         | 8.872  | 1.620 | 1.714 | 1.297 | 45646.1328         | 12.357 |       | 1.803 | 1.418 |
| 45873.3593         | 8.991  | 1.687 | 1.740 | 1.326 | 45648.1171         | 12.147 |       | 1.701 | 1.297 |
| 45874.3476         | 9.087  | 1.747 | 1.767 | 1.329 | 45649.1405         | 12.070 |       | 1.547 | 1.333 |
| 45875.3397         | 9.171  |       | 1.759 | 1.350 | 45650.1250         | 11.994 |       | 1.413 | 1.330 |
| 45876.3554         | 9.152  | 1.616 | 1.726 | 1.323 | 45864.3788         | 11.974 | 1.297 | 1.722 | 1.387 |
| 45877.3397         | 9.059  | 1.452 | 1.666 | 1.294 | 45866.3984         | 12.025 |       | 1.711 | 1.394 |
| 45878.3437         | 8.941  | 1.238 | 1.577 | 1.248 | 45867.3945         | 12.062 |       | 1.709 | 1.400 |
| 45879.3320         | 8.922  | 1.213 | 1.518 | 1.214 | 45868.3476         | 12.068 |       | 1.749 | 1.401 |
| 45880.3437         | 8.544  | 0.969 | 1.344 | 1.107 | 45869.3671         | 12.111 |       | 1.747 | 1.412 |
| 45881.3359         | 7.962  | 0.823 | 1.006 | 0.957 | 45870.3554         | 12.137 |       | 1.781 | 1.415 |
| 45882.3280         | 8.128  | 0.885 | 1.220 | 1.012 | 45871.3593         | 12.160 |       | 1.786 | 1.408 |
| 45883.3437         | 8.234  | 0.979 | 1.293 | 1.068 | 45872.3631         | 12.187 |       | 1.790 | 1.421 |
| 45886.3476         | 8.544  | 1.327 | 1.540 | 1.213 | 45873.3631         | 12.222 |       | 1.747 | 1.431 |
| 45887.3554         | 8.647  | 1.410 | 1.596 | 1.241 | 45874.3514         | 12.242 |       | 1.802 | 1.412 |
| TT AQL             |        |       |       |       | 45875.3437         | 12.290 |       | 1.759 | 1.419 |
| 45502.3320         | 6.794  | 0.754 | 1.058 | 0.935 | 45876.3631         | 12.271 |       | 1.770 | 1.412 |
| 45503.3280         | 6.640  | 0.715 | 1.049 | 0.923 | 45877.3437         | 12.274 |       | 1.750 | 1.426 |
| 45505.3203         | 6.861  | 0.896 | 1.267 | 1.029 | 45878.3476         | 12.246 |       | 1.713 | 1.380 |
| 45508.3085         | 7.217  | 1.208 | 1.510 | 1.154 | 45879.3359         | 12.219 |       | 1.675 | 1.396 |
| 45509.3397         | 7.373  | 1.336 | 1.541 | 1.198 | 45880.3476         | 12.123 |       | 1.660 | 1.347 |
| 45512.3437         | 7.648  | 1.316 | 1.583 | 1.210 | 45881.3397         | 12.044 |       | 1.585 | 1.311 |
| 45513.3945         | 7.486  | 1.107 | 1.465 | 1.147 | 45882.3320         | 11.923 |       | 1.524 | 1.285 |
| 45514.3397         | 7.328  | 0.944 | 1.363 | 1.107 | 45883.3476         | 11.793 |       | 1.446 | 1.252 |
| 45650.1328         | 7.649  | 1.288 | 1.553 | 1.213 | 45886.3514         | 11.592 |       | 1.391 | 1.196 |
| 45872.3631         | 7.326  | 1.005 | 1.348 | 1.087 | 45887.3593         | 11.585 |       | 1.378 | 1.177 |
| 45873.3593         | 7.135  | 0.896 | 1.212 | 1.036 | V916 AQL           |        |       |       |       |
| 45874.3514         | 6.541  | 0.728 | 0.996 | 0.864 | 44825.3397         | 10.433 |       | 1.641 |       |
| 45875.3397         | 6.749  | 0.812 | 1.095 | 0.969 | 44827.2343         | 10.688 |       | 1.836 |       |
| 45876.3593         | 6.844  | 0.899 | 1.214 | 1.006 | 44829.2500         | 10.915 |       | 1.953 |       |
| 45877.3437         | 6.946  | 1.002 | 1.320 | 1.069 | 44830.2264         | 11.054 |       | 1.982 |       |
| 45878.3437         | 7.061  | 1.118 | 1.416 | 1.097 | 44831.2343         | 11.160 |       | 2.037 |       |
| 45879.3359         | 7.178  | 1.233 | 1.469 | 1.132 | 44832.2343         | 11.200 |       | 2.020 |       |
| 45880.3437         | 7.302  | 1.344 | 1.536 | 1.174 | 44833.2264         | 11.174 |       | 1.975 |       |
| 45881.3359         | 7.484  | 1.445 | 1.561 | 1.230 | 44844.2109         | 11.111 |       | 2.026 |       |
| 45882.3320         | 7.603  | 1.481 | 1.611 | 1.224 | 44845.1992         | 11.203 |       | 2.000 |       |
| 45883.3437         | 7.659  | 1.472 | 1.589 | 1.210 | 44846.2304         | 11.233 |       | 2.013 |       |
| 45886.3514         | 7.351  | 1.015 | 1.347 | 1.094 | 44847.2070         | 11.102 |       | 1.928 |       |
| 45887.3554         | 6.942  | 0.789 | 1.129 | 0.967 | 44848.1992         | 10.944 |       | 1.815 |       |
| EV AQL             |        |       |       |       | 44849.2304         | 10.881 |       | 1.764 |       |
| 45489.3514         | 12.347 | 1.555 |       | 1.456 | 44850.2264         | 10.397 |       | 1.537 |       |
| 45490.2968         | 12.314 | 1.633 | 1.782 | 1.368 | 44851.2226         | 10.318 |       | 1.567 |       |
| 45493.3397         | 12.167 | 1.185 | 1.659 | 1.382 | 44852.2147         | 10.433 |       | 1.646 |       |
| 45497.2655         | 11.713 | 0.989 | 1.410 | 1.203 | 44853.2147         | 10.563 |       | 1.755 |       |

ПРОДОЛЖЕНИЕ ТАБЛИЦЫ 3

| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| V916 AQL           |        |       |       |       | V916 AQL           |        |       |       |       |
| 44854.2147         | 10.690 |       | 1.839 |       | 45876.3631         | 10.756 | 1.714 | 1.870 | 1.456 |
| 44855.1913         | 10.804 |       | 1.893 |       | 45877.3476         | 10.872 |       | 1.917 | 1.506 |
| 44856.1953         | 10.930 |       | 1.964 |       | 45878.3514         | 11.001 |       | 1.979 | 1.524 |
| 44857.1992         | 11.072 |       | 1.975 |       | 45879.3397         | 11.139 |       | 2.009 | 1.538 |
| 44858.2617         | 11.189 |       | 2.020 |       | 45880.3476         | 11.218 |       | 2.017 | 1.565 |
| 44880.1953         | 10.575 |       | 1.781 |       | 45881.3397         | 11.241 |       | 1.961 | 1.559 |
| 44881.1835         | 10.700 |       | 1.855 |       | 45882.3359         | 11.098 |       | 1.895 | 1.503 |
| 44882.2226         | 10.836 |       | 1.883 |       | 45883.3514         | 10.946 |       | 1.832 | 1.445 |
| 44883.1405         | 10.925 |       | 1.967 |       | 45886.3514         | 10.346 | 1.194 | 1.581 | 1.298 |
| 44884.1445         | 11.074 |       | 1.995 |       | 45887.3631         | 10.481 |       | 1.673 | 1.358 |
| 44885.1679         | 11.189 |       | 2.048 |       | RX AUR             |        |       |       |       |
| 45173.3593         | 10.335 |       | 1.558 |       | 45666.3828         | 7.309  | 0.509 | 0.779 | 0.706 |
| 45175.3710         | 10.512 |       | 1.708 |       | 45676.3828         | 7.673  | 0.597 | 0.938 | 0.810 |
| 45178.3476         | 10.859 |       | 1.939 |       | 45679.3671         | 7.404  | 0.548 | 0.892 | 0.757 |
| 45181.2343         | 11.194 |       | 2.020 |       | 45687.2851         | 7.763  | 0.611 | 0.970 | 0.829 |
| 45182.2381         | 11.199 |       | 1.990 |       | 45689.4022         | 7.370  | 0.533 | 0.800 | 0.720 |
| 45183.2421         | 11.091 |       | 1.923 |       | 45690.3242         | 7.331  | 0.537 | 0.816 | 0.729 |
| 45184.2109         | 10.955 |       | 1.805 |       | 45691.3203         | 7.475  | 0.594 | 0.904 | 0.793 |
| 45186.2538         | 10.394 |       | 1.550 |       | 45692.3163         | 7.561  | 0.655 | 0.980 | 0.828 |
| 45187.2343         | 10.310 |       | 1.560 |       | 45693.3280         | 7.680  | 0.716 | 1.052 | 0.867 |
| 45188.2304         | 10.427 |       | 1.652 |       | 45694.2889         | 7.801  | 0.794 | 1.111 | 0.904 |
| 45189.2812         | 10.566 |       | 1.766 |       | 45695.2851         | 7.924  | 0.839 | 1.141 | 0.921 |
| 45190.2851         | 10.690 |       | 1.843 |       | 45705.2460         | 7.731  | 0.751 | 1.077 | 0.854 |
| 45191.2929         | 10.816 |       | 1.890 |       | 45706.2655         | 7.842  | 0.811 | 1.140 | 0.907 |
| 45192.2929         | 10.923 |       | 1.958 |       | 45707.2655         | 7.957  | 0.847 | 1.144 | 0.937 |
| 45193.2695         | 11.055 |       | 1.983 |       | YZ AUR             |        |       |       |       |
| 45194.2695         | 11.147 |       | 2.007 |       | 45666.4062         | 10.713 | 1.114 | 1.562 | 1.308 |
| 45198.2889         | 10.916 |       | 1.788 |       | 45676.3984         | 10.196 | 0.992 | 1.416 | 1.210 |
| 45199.2617         | 10.663 |       | 1.673 |       | 45679.3067         | 10.393 |       | 1.544 | 1.255 |
| 45200.2772         | 10.332 |       | 1.552 |       | 45687.3125         | 10.538 |       | 1.365 | 1.214 |
| 45201.2695         | 10.388 |       | 1.616 |       | 45689.4256         | 10.009 | 0.736 | 1.140 | 1.059 |
| 45203.3203         | 10.631 |       | 1.803 |       | 45690.3554         | 9.939  | 0.781 | 1.140 | 1.057 |
| 45211.1796         | 10.932 |       | 1.816 |       | 45691.3476         | 9.995  | 0.791 | 1.188 | 1.082 |
| 45212.1992         | 10.864 |       | 1.747 |       | 45692.3242         | 10.048 | 0.855 | 1.268 | 1.121 |
| 45213.1913         | 10.375 |       | 1.540 |       | 45693.3514         | 10.115 | 0.942 | 1.335 | 1.163 |
| 45214.1913         | 10.319 |       | 1.588 |       | 45694.3046         | 10.193 | 1.032 | 1.385 | 1.195 |
| 45648.1210         | 10.778 |       | 1.913 | 1.468 | 45695.2929         | 10.249 | 1.121 | 1.449 | 1.220 |
| 45648.1210         | 10.793 |       | 1.900 | 1.470 | 45705.2578         | 10.527 | 0.917 | 1.372 | 1.175 |
| 45649.1484         | 10.913 |       | 1.976 | 1.510 | 45706.2695         | 10.466 | 0.883 | 1.330 | 1.170 |
| 45650.1367         | 11.021 |       | 2.043 | 1.520 | 45707.2734         | 10.062 | 0.750 | 1.154 | 1.059 |
| 45665.0976         | 11.210 |       | 2.054 | 1.553 | CY AUR             |        |       |       |       |
| 45666.0780         | 11.252 |       | 2.043 | 1.567 | 44835.4726         | 12.021 |       | 1.611 |       |
| 45668.0820         | 10.938 |       | 1.885 | 1.445 | 45180.4492         | 12.201 |       | 1.729 |       |
| 45864.3006         | 10.910 | 1.672 | 1.961 | 1.502 | 45181.4453         | 11.974 |       | 1.600 |       |
| 45867.3085         | 11.227 | 1.891 | 2.014 | 1.560 | 45182.4453         | 12.015 |       | 1.567 |       |
| 45868.3514         | 11.179 | 1.731 | 1.954 | 1.526 | 45183.4453         | 11.568 |       | 1.386 |       |
| 45869.3710         | 11.010 | 1.546 | 1.860 | 1.482 | 45184.4413         | 11.421 |       | 1.372 |       |
| 45870.3593         | 10.911 | 1.432 | 1.791 | 1.443 | 45186.4530         | 11.587 |       | 1.537 |       |
| 45871.3631         | 10.669 | 1.276 | 1.665 | 1.343 | 45187.4609         | 11.716 |       | 1.576 |       |
| 45872.3671         | 10.328 | 1.166 | 1.546 | 1.285 | 45188.4453         | 11.783 |       | 1.672 |       |
| 45873.3671         | 10.375 | 1.274 | 1.616 | 1.325 | 45189.4764         | 11.923 |       | 1.724 |       |
| 45874.3554         | 10.507 | 1.346 | 1.728 | 1.364 | 45190.4764         | 12.007 |       | 1.787 |       |
| 45875.3514         | 10.639 | 1.565 | 1.809 | 1.399 | 45191.4726         | 12.171 |       | 1.783 |       |

| JD HEL<br>2400000+ | V      | U-B   | R-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | R-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| CY AUR             |        |       |       |       | ER AUR             |        |       |       |       |
| 45192.4726         | 12.254 |       | 1.804 |       | 45689.4179         | 11.777 |       | 1.271 | 1.112 |
| 45193.4726         | 12.313 |       | 1.807 |       | 45690.3397         | 11.771 | 0.855 | 1.248 | 1.098 |
| 45194.4764         | 12.156 |       | 1.681 |       | 45691.3359         | 11.758 |       | 1.204 | 1.105 |
| 45198.4726         | 11.426 |       | 1.410 |       | 45692.2968         | 11.688 |       | 1.171 | 1.052 |
| 45199.4609         | 11.528 |       | 1.448 |       | 45693.3437         | 11.607 | 0.782 | 1.125 | 1.029 |
| 45200.4764         | 11.622 |       | 1.548 |       | 45694.2968         | 11.502 | 0.729 | 1.081 | 0.995 |
| 45201.4764         | 11.710 |       | 1.625 |       | 45695.2889         | 11.286 |       | 1.011 | 0.938 |
| 45205.4335         | 12.160 |       | 1.795 |       | 45704.2655         | 11.745 |       | 1.249 | 1.094 |
| 45666.3710         | 11.982 |       | 1.609 | 1.348 | 45705.2500         | 11.792 | 0.852 | 1.250 |       |
| 45676.3631         | 12.202 |       |       | 1.500 | 45706.2695         | 11.777 |       | 1.251 | 1.103 |
| 45679.3514         | 12.097 |       | 1.642 | 1.419 | 45707.2695         | 11.712 | 0.788 | 1.214 | 1.076 |
| 45689.3828         | 12.093 |       | 1.776 | 1.463 | RM CAN             |        |       |       |       |
| 45690.3006         | 12.232 |       | 1.795 | 1.498 | 45660.3671         | 8.828  |       | 1.412 | 1.217 |
| 45691.2929         | 12.323 |       | 1.800 | 1.505 | 45665.4101         | 8.423  |       | 1.409 | 1.164 |
| 45692.2889         | 12.294 |       | 1.778 | 1.478 | 45666.3163         | 8.503  |       | 1.449 | 1.191 |
| 45693.2617         | 12.084 |       | 1.658 | 1.408 | 45676.3125         | 8.797  |       | 1.421 | 1.203 |
| 45694.2460         | 12.020 |       | 1.578 | 1.375 | 45679.3085         | 8.207  |       | 1.244 | 1.064 |
| 45695.2734         | 11.916 | 1.035 | 1.544 | 1.312 | 45686.2421         | 8.813  |       | 1.542 | 1.277 |
| 45704.2617         | 12.213 |       |       | 1.472 | 45687.2187         | 8.920  |       | 1.520 | 1.284 |
| 45705.2381         | 12.324 |       | 1.818 | 1.470 | 45688.2500         | 9.005  |       | 1.534 | 1.295 |
| 45706.2570         | 12.273 | 1.346 | 1.798 | 1.456 | 45689.3437         | 9.057  | 0.832 | 1.497 | 1.292 |
| 45707.2578         | 12.046 | 1.132 | 1.633 | 1.382 | 45690.2147         | 9.053  | 0.807 | 1.480 | 1.285 |
| ER AUR             |        |       |       |       | 45691.2304         | 8.954  | 0.798 | 1.447 | 1.255 |
| 44831.4218         | 11.407 |       | 1.076 |       | 45692.2187         | 8.829  | 0.776 | 1.407 | 1.220 |
| 44833.4453         | 11.212 |       | 0.999 |       | 45693.2030         | 8.839  | 0.785 | 1.376 | 1.203 |
| 44834.4726         | 11.299 |       | 1.045 |       | 45694.2109         | 8.598  | 0.774 | 1.313 | 1.132 |
| 44835.4609         |        |       | 1.058 |       | 45695.2304         | 8.261  | 0.779 | 1.215 | 1.061 |
| 44881.3710         |        |       | 1.058 |       | 45705.1367         | 9.017  | 0.808 | 1.512 | 1.287 |
| 44883.3242         | 11.404 |       | 1.107 |       | 45706.1562         | 9.046  | 0.797 | 1.491 | 1.281 |
| 44884.3750         | 11.489 |       | 1.159 |       | 45707.1601         | 9.012  | 0.806 | 1.471 | 1.267 |
| 45180.4570         | 11.343 |       | 1.078 |       | AD CAN             |        |       |       |       |
| 45181.4530         | 11.397 |       | 1.124 |       | 44829.3984         | 12.875 |       | 1.748 |       |
| 45182.4492         | 11.471 |       | 1.132 |       | 44830.4256         | 13.009 |       | 1.791 |       |
| 45183.4492         | 11.537 |       | 1.196 |       | 44831.3593         | 13.034 |       | 1.761 |       |
| 45184.4492         | 11.635 |       | 1.203 |       | 44832.4218         | 12.682 |       | 1.639 |       |
| 45186.4570         | 11.735 |       | 1.286 |       | 44833.4101         | 12.708 |       | 1.576 |       |
| 45187.4647         | 11.783 |       | 1.285 |       | 44834.4375         | 11.962 |       | 1.300 |       |
| 45188.4530         | 11.771 |       | 1.221 |       | 44835.4375         | 12.187 |       | 1.473 |       |
| 45189.4804         | 11.726 |       | 1.179 |       | 44880.3867         | 12.167 |       | 1.484 |       |
| 45190.4804         | 11.658 |       | 1.144 |       | 44881.3593         | 12.293 |       | 1.525 |       |
| 45191.4764         | 11.576 |       | 1.121 |       | 44883.3163         | 12.526 |       | 1.649 |       |
| 45192.4764         | 11.370 |       | 1.051 |       | 44884.3593         | 12.670 |       | 1.731 |       |
| 45193.4764         | 11.229 |       | 0.981 |       | 45179.4256         | 13.014 |       | 1.846 |       |
| 45194.4804         | 11.201 |       | 0.966 |       | 45180.3905         | 13.011 |       | 1.791 |       |
| 45198.4764         | 11.315 |       | 1.168 |       | 45181.4022         | 12.762 |       | 1.656 |       |
| 45199.4647         | 11.578 |       | 1.211 |       | 45182.3984         | 12.702 |       | 1.614 |       |
| 45200.4804         | 11.664 |       | 1.231 |       | 45183.4062         | 12.059 |       | 1.395 |       |
| 45201.4843         | 11.722 |       | 1.264 |       | 45184.3828         | 12.146 |       | 1.418 |       |
| 45205.4375         | 11.677 |       | 1.171 |       | 45186.4256         | 12.387 |       | 1.581 |       |
| 45666.3945         | 11.289 |       | 1.015 | 0.974 | 45187.3828         | 12.514 |       | 1.673 |       |
| 45676.3905         | 11.680 |       | 1.175 | 1.058 | 45188.4022         | 12.635 |       | 1.729 |       |
| 45679.3788         | 11.320 |       | 1.029 | 0.948 | 45189.4296         | 12.818 |       | 1.770 |       |
| 45687.3006         | 11.687 |       |       | 1.104 | 45190.4101         | 12.968 |       | 1.800 |       |

| JD HEL<br>2400000+ | V      | U-R   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-R   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| AD CAM             |        |       |       |       | RW CAS             |        |       |       |       |
| 45191.4022         | 13.029 |       | 1.788 |       | 45665.3593         | 8.736  | 0.672 | 0.973 | 0.854 |
| 45192.4101         | 12.844 |       | 1.704 |       | 45666.2734         | 8.811  | 0.727 | 1.050 | 0.896 |
| 45193.4218         | 12.734 |       | 1.587 |       | 45668.2889         | 9.033  | 0.941 | 1.258 | 1.011 |
| 45198.4296         | 12.486 |       | 1.632 |       | 45688.2070         | 9.686  | 1.360 | 1.562 | 1.165 |
| 45199.4139         | 12.612 |       | 1.716 |       | 45691.1992         | 9.564  | 1.102 | 1.396 | 1.093 |
| 45200.4375         | 12.778 |       | 1.763 |       | 45695.2030         | 8.744  | 0.705 | 1.001 | 0.856 |
| 45665.4022         | 12.824 |       |       |       | 45701.1913         | 9.427  | 1.308 | 1.499 | 1.126 |
| 45666.3085         | 12.678 |       |       | 1.463 | 45706.1445         | 9.520  | 1.056 | 1.362 | 1.071 |
| 45676.3046         | 12.887 |       |       | 1.506 | 45707.1405         | 9.424  | 0.908 | 1.281 | 1.023 |
| 45686.2304         | 13.021 |       |       | 1.546 | RY CAS             |        |       |       |       |
| 45687.2109         | 12.941 |       |       | 1.500 | 45649.3514         | 9.807  | 0.959 | 1.352 | 1.181 |
| 45688.2421         | 12.726 |       |       |       | 45660.2968         | 9.659  | 0.874 | 1.269 | 1.129 |
| 45689.3320         | 12.713 |       | 1.609 | 1.440 | 45665.3397         | 10.323 |       | 1.602 | 1.308 |
| 45690.2070         | 12.046 |       | 1.365 | 1.234 | 45666.2578         | 10.356 |       | 1.586 | 1.306 |
| 45691.2187         | 12.179 |       | 1.437 | 1.330 | 45668.2655         | 10.169 | 1.063 | 1.449 | 1.228 |
| 45692.2109         | 12.291 |       | 1.529 | 1.366 | 45674.2538         | 9.919  | 1.111 | 1.457 | 1.200 |
| 45693.1913         | 12.421 |       | 1.549 | 1.452 | 45676.2538         | 10.166 | 1.225 | 1.558 | 1.295 |
| 45694.2030         | 12.511 |       | 1.690 | 1.470 | 45677.2070         | 10.298 |       | 1.607 | 1.316 |
| 45695.2226         | 12.669 |       | 1.745 | 1.526 | 45679.2147         | 10.343 |       | 1.529 | 1.299 |
| 45701.2070         | 12.542 |       | 1.524 | 1.364 | 45683.2070         | 9.444  | 0.860 | 1.119 | 1.016 |
| 45705.1328         | 12.502 |       | 1.608 | 1.478 | 45688.1835         | 10.147 |       | 1.570 | 1.277 |
| 45706.1562         | 12.613 |       | 1.697 | 1.517 | 45691.1835         | 10.340 | 1.309 | 1.546 | 1.294 |
| 45707.1562         | 12.774 |       | 1.763 | 1.539 | 45694.1601         | 9.878  | 0.996 | 1.298 | 1.145 |
| SS CMA             |        |       |       |       | 45695.1679         | 9.494  | 0.877 | 1.151 | 1.031 |
| 45666.4921         | 9.990  | 0.910 | 1.250 |       | 45701.1639         | 10.252 | 1.375 | 1.590 |       |
| 45676.4843         | 10.376 | 1.210 | 1.478 | 1.186 | 45706.1171         | 9.900  | 0.982 | 1.316 | 1.138 |
| 45687.4256         | 10.272 |       | 1.524 | 1.299 | 45707.1210         | 9.587  | 0.890 | 1.181 | 1.050 |
| 45691.4453         | 9.898  |       | 1.218 | 1.050 | SZ CAS             |        |       |       |       |
| 45692.3476         | 9.832  | 0.873 | 1.151 | 1.034 | 45644.4179         | 9.705  | 1.087 | 1.374 | 1.251 |
| 45693.3631         | 9.455  | 0.755 | 1.061 | 0.927 | 45649.3750         | 9.823  | 1.063 | 1.546 | 1.320 |
| 45694.3671         | 9.499  | 0.807 | 1.070 | 0.962 | 45665.3631         | 9.976  |       | 1.607 | 1.365 |
| 45704.3437         | 9.836  |       | 1.205 | 1.033 | 45666.2812         | 10.010 |       | 1.602 | 1.358 |
| 45705.3320         | 9.709  | 0.812 | 1.117 | 0.995 | 45668.2968         | 9.999  |       | 1.548 | 1.351 |
| 45706.3280         | 9.416  | 0.763 | 1.028 | 0.952 | 45676.2734         | 9.798  | 1.076 | 1.536 | 1.316 |
| 45707.3397         | 9.665  | 0.822 | 1.175 | 1.027 | 45679.2343         | 9.997  |       | 1.597 | 1.365 |
| AO CMA             |        |       |       |       | 45608.2109         | 9.719  |       | 1.452 | 1.273 |
| 45694.3788         | 12.424 |       | 1.518 | 1.319 | 45695.2109         | 10.012 | 1.210 | 1.558 | 1.345 |
| 45704.3397         | 12.239 |       | 1.496 | 1.295 | 45701.1953         | 9.633  | 1.039 | 1.416 | 1.242 |
| 45705.3280         | 12.450 |       | 1.533 | 1.354 | 45707.1445         | 10.001 | 1.257 | 1.597 | 1.352 |
| 45706.3242         | 12.284 |       | 1.431 | 1.294 | CE CAS             |        |       |       |       |
| 45707.3320         | 11.658 | 0.843 | 1.152 | 1.112 | 44826.4256         | 11.579 |       |       |       |
| BC CMA             |        |       |       |       | 44826.4296         | 11.912 |       |       |       |
| 45706.3203         | 13.370 |       | 1.249 | 1.153 | 44827.3476         | 10.429 |       | 1.296 |       |
| 45707.3280         | 12.600 |       | 0.986 | 0.944 | 44827.3514         | 11.031 |       |       |       |
| CP CMA             |        |       |       |       | 44829.3631         | 10.022 |       | 1.039 |       |
| 45704.3242         | 13.272 |       | 1.168 | 1.110 | 44830.3867         | 10.099 |       | 1.150 |       |
| 45705.3085         | 13.429 |       | 1.270 | 1.110 | 44831.3203         | 10.310 |       | 1.247 |       |
| 45706.3125         | 13.585 |       | 1.262 | 1.161 | 44832.3828         | 10.478 |       | 1.287 |       |
| 45707.3163         | 13.203 |       | 1.353 | 1.044 | 44832.3437         | 10.493 |       | 1.272 |       |
| RW CAS             |        |       |       |       | 44833.3671         | 10.186 |       | 1.078 |       |
| 45644.4101         | 9.753  | 1.449 | 1.563 | 1.174 | 44833.3242         | 10.192 |       | 1.097 |       |
| 45649.4710         | 8.995  | 0.648 | 0.920 | 0.802 | 44844.4804         | 10.293 |       | 1.202 |       |
| 45660.3085         | 9.762  |       | 1.537 | 1.168 | 44847.4843         | 9.921  |       | 1.128 |       |



| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-----|-------|-------|
| CE CAS             |        |       |       |       | CE CAS             |        |     |       |       |
| 44848.4726         | 10.478 |       | 1.252 |       | 45695.1718         | 10.269 |     | 1.239 | 1.044 |
| 44850.4843         | 10.137 |       | 1.116 |       | 45701.1718         | 10.452 |     | 1.299 | 1.064 |
| 44851.4764         | 10.001 |       | 1.075 |       | 45705.1131         | 10.317 |     | 1.230 | 1.054 |
| 44880.3476         | 10.336 |       | 1.250 |       | 45706.1210         | 10.408 |     | 1.248 | 1.058 |
| 44880.4921         | 10.270 |       | 1.232 |       | 45707.1250         | 10.168 |     | 1.088 | 0.967 |
| 44881.3514         | 10.102 |       | 1.140 |       | 45868.4453         | 9.893  |     | 1.028 | 0.934 |
| 44881.3945         | 10.115 |       | 1.141 |       | 45872.4335         | 10.171 |     | 1.109 | 0.964 |
| 44882.4687         | 10.142 |       | 1.097 |       | 45873.4375         | 10.001 |     | 1.067 | 0.944 |
| 44882.4647         | 10.135 |       | 1.108 |       | 45874.4413         | 10.211 |     | 1.203 | 1.023 |
| 44883.4570         | 10.163 |       | 1.163 |       | 45875.4335         | 10.398 |     | 1.275 | 1.078 |
| 44883.2264         | 10.148 |       | 1.149 |       | 45876.4375         | 10.419 |     | 1.246 | 1.044 |
| 44883.2851         | 10.145 |       | 1.149 |       | 45877.4335         | 10.151 |     | 1.098 | 0.948 |
| 44884.2734         | 10.379 |       | 1.234 |       | 45878.4375         | 10.030 |     | 1.072 | 0.966 |
| 45181.4609         | 10.412 |       | 1.289 |       | 45879.4375         | 10.257 |     | 1.195 | 1.043 |
| 45182.3828         | 10.312 |       | 1.191 |       | 45880.4256         | 10.406 |     | 1.276 | 1.075 |
| 45182.4570         | 10.274 |       | 1.166 |       | 45881.4296         | 10.236 |     | 1.061 | 0.981 |
| 45183.4609         | 10.169 |       | 1.126 |       | 45882.4375         | 10.249 |     | 1.184 | 0.992 |
| 45184.4492         | 10.061 |       | 1.099 |       | 45883.4375         | 10.125 |     | 1.111 | 0.955 |
| 45186.4647         | 10.337 |       | 1.257 |       | 45886.4335         | 10.149 |     | 1.124 | 0.973 |
| 45187.4218         | 10.126 |       | 1.079 |       | 45887.4296         | 10.348 |     | 1.226 | 1.038 |
| 45188.3750         | 10.291 |       | 1.197 |       | CF CAS             |        |     |       |       |
| 45189.4062         | 10.139 |       | 1.123 |       | 44829.3593         | 11.276 |     | 1.313 |       |
| 45193.4804         | 10.389 |       | 1.240 |       | 44830.3905         | 11.375 |     | 1.362 |       |
| 45198.4843         | 10.443 |       | 1.301 |       | 44831.3280         | 11.162 |     | 1.210 |       |
| 45199.4726         | 10.248 |       | 1.156 |       | 44832.3650         |        |     | 1.098 |       |
| 45200.4843         | 10.019 |       | 1.063 |       | 44833.3280         | 11.089 |     | 1.238 |       |
| 45205.4843         | 9.946  |       | 1.032 |       | 44847.4843         |        |     | 1.171 |       |
| 45490.4296         | 10.300 |       | 1.331 | 1.189 | 44848.4764         |        |     | 1.288 |       |
| 45509.4296         | 10.113 | 0.715 | 1.092 |       | 44850.4881         | 11.308 |     | 1.330 |       |
| 45512.4335         | 10.360 |       | 1.320 |       | 44851.4804         | 10.834 |     | 1.070 |       |
| 45513.4296         | 10.111 |       | 1.133 |       | 44880.3554         | 11.016 |     | 1.153 |       |
| 45514.4218         | 9.963  |       | 1.057 |       | 44880.4960         | 10.908 |     | 1.116 |       |
| 45644.3867         | 10.394 |       |       |       | 44881.3774         |        |     | 1.165 |       |
| 45649.3593         | 10.121 |       | 1.157 | 1.075 | 44882.4687         |        |     | 1.299 |       |
| 45656.3945         | 10.401 | 0.793 | 1.340 | 1.129 | 44883.4609         | 11.283 |     | 1.333 |       |
| 45660.3006         | 10.427 |       | 1.310 | 1.153 | 44884.2772         | 11.411 |     | 1.334 |       |
| 45665.3437         | 10.471 |       | 1.284 | 1.098 | 45181.4647         | 11.387 |     | 1.351 |       |
| 45666.2617         | 10.231 |       | 1.175 | 1.029 | 45182.4609         | 11.079 |     | 1.169 |       |
| 45668.2695         | 10.263 |       | 1.176 | 1.019 | 45182.3867         | 11.131 |     | 1.209 |       |
| 45674.2617         | 10.387 |       | 1.258 | 1.041 | 45183.4609         | 10.870 |     | 1.107 |       |
| 45676.2578         | 10.187 |       | 1.199 | 1.050 | 45184.4530         | 11.097 |     | 1.260 |       |
| 45677.2109         | 10.238 |       | 1.191 | 1.100 | 45186.4687         | 11.354 |     | 1.342 |       |
| 45679.2187         | 10.270 |       | 1.208 | 1.050 | 45187.4256         | 11.039 |     | 1.145 |       |
| 45683.2147         | 10.168 |       | 1.125 | 0.978 | 45188.3750         | 10.905 |     | 1.115 |       |
| 45686.1562         | 10.313 |       | 1.240 | 1.107 | 45189.4062         | 11.125 |     | 1.278 |       |
| 45687.1405         | 10.470 |       | 1.272 | 1.107 | 45191.3764         | 11.164 |     | 1.308 |       |
| 45688.1874         | 10.117 |       | 1.146 | 1.001 | 45192.3867         | 11.218 |     | 1.325 |       |
| 45689.2204         | 10.405 |       | 1.084 | 0.971 | 45193.3881         | 11.746 |     | 1.346 |       |
| 45690.2647         | 10.111 |       | 1.191 | 1.077 | 45194.3881         | 11.035 |     | 1.058 | 1.077 |
| 45691.3074         | 10.119 |       | 1.162 | 1.071 | 45195.4296         | 10.461 |     | 1.071 |       |
| 45692.3447         | 10.400 |       | 1.171 | 1.096 | 45196.4335         | 10.439 |     | 1.076 |       |
| 45693.3804         | 10.464 |       | 1.019 | 0.956 | 45197.4375         | 10.356 |     | 1.087 |       |
| 45694.4237         | 10.140 |       | 1.176 | 1.071 | 45198.4413         | 10.406 |     | 1.091 |       |



ПРОДОЛЖЕНИЕ ТАБЛИЦЫ 3

| JD HEL<br>2400000+ | V      | U-B | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | B-V   | V-I  |
|--------------------|--------|-----|-------|-------|--------------------|--------|-------|-------|------|
| CF CAS             |        |     |       |       | CG CAS             |        |       |       |      |
| 45649.3554         | 11.338 |     | 1.344 | 1.119 | 44883.2889         | 10.953 |       | 1.048 |      |
| 45656.3984         | 10.910 |     | 1.121 | 0.991 | 44883.4647         | 10.889 |       | 1.042 |      |
| 45660.3046         | 11.053 |     | 1.122 | 1.040 | 44884.2851         |        |       | 1.213 |      |
| 45665.3476         | 10.938 |     | 1.096 | 0.990 | 45182.4647         | 11.576 |       | 1.376 |      |
| 45666.2617         | 10.919 |     | 1.147 | 0.990 | 45183.4647         | 11.726 |       | 1.420 |      |
| 45668.2772         | 11.295 |     | 1.326 | 1.125 | 45184.4530         | 11.007 |       | 1.056 |      |
| 45674.2655         |        |     | 1.352 | 1.117 | 45187.4256         | 11.682 |       | 1.436 |      |
| 45676.2578         | 10.981 |     | 1.187 | 1.041 | 45188.3878         | 11.572 |       | 1.309 |      |
| 45677.2109         | 11.173 |     | 1.293 | 1.107 | 45189.4101         | 11.021 |       | 1.102 |      |
| 45679.2187         | 11.350 |     | 1.305 | 1.094 | 45199.4804         | 11.468 |       | 1.337 |      |
| 45683.2147         | 11.331 |     |       |       | 45205.4921         | 11.750 |       | 1.436 |      |
| 45686.1601         | 11.001 |     | 1.173 | 1.037 | 45877.4296         | 11.740 |       | 1.444 | 1.22 |
| 45687.1445         | 11.193 |     | 1.299 | 1.100 | 45878.4375         | 11.231 |       | 1.166 | 1.05 |
| 45688.1913         | 11.336 |     | 1.295 | 1.171 | 45880.4218         | 11.457 |       | 1.327 | 1.16 |
| 45689.2381         | 11.279 |     | 1.231 | 1.051 | 45881.4296         | 11.711 |       | 1.390 | 1.20 |
| 45690.1601         | 10.830 |     |       | 0.957 | 45882.4335         | 11.673 |       | 1.356 | 1.17 |
| 45691.1875         | 11.059 |     | 1.218 | 1.054 | 45883.4335         | 11.000 |       | 1.072 | 0.98 |
| 45692.1367         | 11.237 |     | 1.290 | 1.104 | 45886.4296         | 11.783 |       | 1.401 | 1.22 |
| 45693.1445         | 11.367 |     | 1.327 | 1.125 | 45887.4256         | 10.930 |       | 1.057 | 0.94 |
| 45694.1679         | 11.216 |     |       |       | CH CAS             |        |       |       |      |
| 45695.1756         | 10.855 |     | 1.076 | 0.973 | 45648.3203         | 10.405 |       | 1.375 | 1.29 |
| 45701.1756         | 11.100 |     | 1.253 | 1.059 | 45649.3280         | 10.671 |       | 1.492 | 1.42 |
| 45705.1131         | 10.895 |     | 1.106 | 0.978 | 45660.2734         | 11.213 |       | 1.705 | 1.54 |
| 45706.1210         | 11.104 |     | 1.264 | 1.055 | 45665.2929         | 10.766 |       | 1.591 | 1.44 |
| 45707.1250         | 11.275 |     | 1.329 | 1.108 | 45666.2147         | 10.852 |       | 1.673 | 1.49 |
| 45868.4492         |        |     | 1.354 | 1.122 | 45668.2304         | 11.031 |       | 1.801 | 1.54 |
| 45872.4335         | 11.206 |     | 1.309 | 1.101 | 45674.2381         | 11.377 |       | 1.830 | 1.55 |
| 45873.4375         | 11.378 |     | 1.323 | 1.132 | 45676.2343         | 11.122 |       | 1.693 | 1.49 |
| 45874.4413         | 11.277 |     | 1.262 | 1.069 | 45677.1913         | 10.790 |       | 1.539 | 1.41 |
| 45875.4375         | 10.849 |     | 1.072 | 0.966 | 45679.1875         | 10.568 |       | 1.491 | 1.36 |
| 45876.4375         | 11.037 |     | 1.225 | 1.036 | 45683.2070         | 11.049 |       | 1.839 | 1.58 |
| 45877.4375         | 11.223 |     | 1.307 | 1.100 | 45688.1562         | 11.470 |       |       | 1.57 |
| 45878.4413         | 11.345 |     | 1.322 | 1.126 | 45689.2030         | 11.375 |       | 1.778 | 1.60 |
| 45879.4375         | 11.216 |     | 1.202 | 1.065 | 45691.1639         | 11.141 | 1.227 | 1.683 | 1.49 |
| 45880.4256         | 10.858 |     | 1.089 | 0.970 | 45694.1445         | 10.546 | 1.108 | 1.447 | 1.36 |
| 45881.4335         |        |     |       | 1.091 | 45695.1484         | 10.722 | 1.198 | 1.560 | 1.42 |
| 45882.4375         | 11.254 |     | 1.323 | 1.107 | 45701.1522         | 11.371 | 1.577 | 1.882 | 1.61 |
| 45883.4375         | 11.398 |     | 1.345 | 1.121 | 45706.1093         | 11.145 | 1.753 | 1.682 | 1.49 |
| 45886.4375         | 11.111 |     | 1.249 | 1.076 | 45707.1093         | 10.935 | 1.164 | 1.571 | 1.43 |
| 45887.4335         | 11.255 |     | 1.346 | 1.103 | CY CAS             |        |       |       |      |
| CB CAS             |        |     |       |       | 45649.3476         | 12.154 |       | 2.059 | 1.67 |
| 44827.3671         | 11.136 |     | 1.183 |       | 45665.3370         | 12.149 |       | 1.925 | 1.61 |
| 44829.3788         | 11.234 |     | 1.406 |       | 45666.2500         | 12.004 |       | 1.813 | 1.61 |
| 44830.3984         | 11.574 |     | 1.327 |       | 45668.2578         | 11.908 |       | 1.556 | 1.40 |
| 44831.3359         | 10.990 |     | 1.080 |       | 45674.2500         | 11.657 |       | 1.880 | 1.54 |
| 44832.3631         | 11.404 |     | 1.288 |       | 45676.2460         | 11.906 |       | 1.969 | 1.63 |
| 44833.3359         | 11.625 |     | 1.390 |       | 45677.2030         | 12.029 |       | 2.030 | 1.62 |
| 44848.4785         |        |     | 1.047 |       | 45679.2109         | 12.189 |       | 1.962 | 1.62 |
| 44851.4804         | 11.723 |     | 1.415 |       | 45683.1835         | 11.039 |       | 1.371 | 1.18 |
| 44880.3593         | 11.368 |     |       |       | 45684.1796         | 11.590 |       | 1.825 | 1.53 |
| 44889.4843         | 11.366 |     |       |       | 45689.2226         | 11.691 |       | 1.837 | 1.58 |
| 44881.3320         |        |     | 1.423 |       | 45690.1522         | 11.822 |       | 1.861 | 1.61 |
| 44881.4062         |        |     | 1.421 |       | 45691.1756         | 11.982 |       | 1.961 | 1.64 |

| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| CY CAS             |        |       |       |       | CP CEP             |        |       |       |       |
| 45694.1562         | 12.121 |       | 1.858 | 1.627 | 45514.3945         | 10.837 | 1.543 | 1.746 | 1.400 |
| 45695.1601         | 11.951 | 1.380 | 1.802 | 1.569 | 45648.2929         | 10.461 |       | 1.667 | 1.354 |
| 45701.1601         | 11.406 | 1.278 | 1.699 | 1.456 | 45658.2889         | 10.732 |       |       | 1.382 |
| 45706.1131         | 12.050 |       | 1.962 | 1.630 | 45665.2695         | 10.382 |       | 1.619 | 1.311 |
| 45707.1171         | 12.171 | 1.773 | 1.936 | 1.669 | 45666.1953         | 10.457 |       | 1.692 | 1.371 |
| DL CAS             |        |       |       |       | 45674.2030         | 10.942 |       | 1.834 | 1.440 |
| 45490.4179         | 9.173  |       | 1.245 | 1.040 | 45676.2187         | 10.714 |       | 1.699 | 1.368 |
| 45502.4335         | 8.866  |       | 1.173 | 1.023 | 45679.1718         | 10.225 |       | 1.446 | 1.206 |
| 45503.4335         | 8.988  |       | 1.226 | 1.050 | 45683.1601         | 10.379 |       | 1.642 | 1.350 |
| 45505.4296         | 9.222  |       | 1.331 | 1.096 | 45688.1445         | 10.811 |       |       | 1.452 |
| 45508.4296         | 8.667  |       | 1.066 | 0.916 | 45691.1367         | 10.970 | 1.819 | 1.851 | 1.484 |
| 45509.4218         | 8.797  |       | 1.118 | 0.983 | 45695.1328         | 10.718 | 1.292 | 1.646 | 1.355 |
| 45512.4453         | 9.110  |       | 1.289 | 1.078 | 45706.0937         | 10.787 | 1.747 | 1.829 | 1.452 |
| 45513.4375         | 9.217  |       | 1.312 | 1.079 | 45707.0937         | 10.876 | 1.789 | 1.839 | 1.461 |
| 45514.4296         | 9.201  |       | 1.258 | 1.066 | DR CEP             |        |       |       |       |
| 45649.3671         | 9.234  |       | 1.335 | 1.100 | 44826.3945         | 12.845 |       | 1.639 |       |
| 45656.4101         | 9.142  |       |       | 1.068 | 44829.3359         | 13.054 |       | 1.735 |       |
| 45665.3514         | 9.248  |       | 1.339 | 1.104 | 44830.3593         | 13.059 |       | 1.726 |       |
| 45666.2655         | 9.232  |       | 1.310 | 1.089 | 44831.3006         | 13.242 |       | 1.782 |       |
| 45668.2812         | 8.689  |       | 1.044 | 0.938 | 44833.2968         | 13.368 |       | 1.796 |       |
| 45674.2695         | 9.284  |       | 1.322 | 1.080 | 44834.4179         | 13.367 |       | 1.770 |       |
| 45676.2617         | 8.689  |       | 1.064 | 0.934 | 44835.4218         | 13.212 |       | 1.630 |       |
| 45677.2147         | 8.776  |       | 1.096 | 0.974 | 44836.4570         | 13.152 |       | 1.552 |       |
| 45679.2226         | 8.959  |       | 1.238 | 1.045 | 44852.2578         | 13.341 |       | 1.778 |       |
| 45683.2187         | 8.988  |       | 1.175 | 0.987 | 44853.2734         |        |       | 1.747 |       |
| 45686.1679         | 8.840  |       | 1.167 | 1.011 | 44856.2538         | 13.203 |       | 1.530 |       |
| 45687.1484         | 8.949  |       | 1.236 | 1.038 | 44857.2538         | 12.582 |       | 1.237 |       |
| 45688.1953         | 9.092  |       | 1.302 | 1.080 | 44858.3437         | 12.273 |       | 1.198 |       |
| 45689.2460         | 9.240  |       | 1.357 | 1.098 | 44880.2421         | 12.597 |       | 1.451 |       |
| 45690.1601         | 9.258  |       | 1.328 | 1.096 | 44881.2381         | 12.653 |       | 1.524 |       |
| 45691.1913         | 8.992  |       | 1.195 | 1.009 | 44882.2812         | 12.705 |       | 1.533 |       |
| 45692.1445         | 8.711  |       | 1.071 | 0.934 | 44883.2147         | 12.790 |       | 1.615 |       |
| 45693.1484         | 8.772  |       | 1.111 | 0.970 | 44884.2460         | 12.870 |       | 1.656 |       |
| 45694.1718         | 8.838  |       | 1.176 | 1.004 | 45176.4453         | 13.369 |       | 1.811 |       |
| 45695.1796         | 8.950  |       | 1.236 | 1.043 | 45178.4296         | 13.283 |       | 1.640 |       |
| 45701.1756         | 8.769  |       | 1.128 | 0.963 | 45179.3476         | 13.137 |       | 1.563 |       |
| 45705.1171         | 9.219  |       | 1.346 | 1.096 | 45180.3593         | 13.219 |       | 1.601 |       |
| 45706.1250         | 9.251  |       | 1.321 | 1.083 | 45181.3046         | 12.819 |       | 1.366 |       |
| 45707.1208         | 9.006  |       | 1.191 | 1.002 | 45182.3046         | 12.326 |       | 1.191 |       |
| 45878.4375         | 8.838  | 0.826 | 1.183 | 1.020 | 45183.3397         | 12.368 |       | 1.219 |       |
| 45879.4179         | 9.015  | 0.903 | 1.252 | 1.059 | 45184.3476         | 12.451 |       | 1.310 |       |
| 45880.4179         | 9.115  | 0.939 | 1.316 | 1.090 | 45186.3788         | 12.580 |       | 1.481 |       |
| 45881.4218         | 9.257  | 0.974 | 1.352 | 1.087 | 45187.3514         | 12.671 |       | 1.532 |       |
| 45882.4218         | 9.217  | 0.911 | 1.299 | 1.075 | 45188.3437         | 12.760 |       | 1.588 |       |
| 45883.4256         | 8.942  | 0.750 | 1.161 | 0.991 | 45189.3710         | 12.843 |       | 1.643 |       |
| 45886.4218         | 8.860  | 0.806 | 1.196 | 1.018 | 45190.3905         | 12.889 |       | 1.717 |       |
| 45887.4179         | 8.990  | 0.882 | 1.262 | 1.045 | 45191.3828         | 13.028 |       | 1.726 |       |
| DR CEP             |        |       |       |       | 45192.3848         | 12.292 |       | 1.292 |       |
| 45904.4179         | 8.711  | 0.806 | 1.183 | 1.020 | 45193.3881         | 12.162 |       | 1.266 |       |
| 45905.4179         | 8.838  | 0.826 | 1.183 | 1.020 | 45194.3881         | 13.196 |       | 1.686 |       |
| 45906.4179         | 8.950  | 0.846 | 1.236 | 1.043 | 45195.3881         | 12.760 |       | 1.588 |       |
| 45907.4179         | 9.062  | 0.866 | 1.289 | 1.078 | 45196.3881         | 12.843 |       | 1.643 |       |
| 45908.4179         | 9.174  | 0.886 | 1.342 | 1.103 | 45197.3881         | 12.926 |       | 1.698 |       |
| 45909.4179         | 9.286  | 0.906 | 1.395 | 1.128 | 45198.3881         | 13.009 |       | 1.753 |       |
| 45910.4179         | 9.398  | 0.926 | 1.448 | 1.153 | 45199.3881         | 13.092 |       | 1.808 |       |
| 45911.4179         | 9.510  | 0.946 | 1.501 | 1.178 | 45200.3881         | 13.175 |       | 1.863 |       |
| 45912.4179         | 9.622  | 0.966 | 1.554 | 1.203 | 45201.3881         | 13.258 |       | 1.918 |       |
| 45913.4179         | 9.734  | 0.986 | 1.607 | 1.228 | 45202.3881         | 13.341 |       | 1.973 |       |
| 45914.4179         | 9.846  | 0.996 | 1.660 | 1.253 | 45203.3881         | 13.424 |       | 2.028 |       |

ПРОДОЛЖЕНИЕ ТАБЛИЦЫ 3

| JD HFL<br>2400000+ | V      | U-B   | R-V   | V-R   | JD HFL<br>2400000+ | V      | U-B   | R-V   | V-R  |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|------|
| DR CEP             |        |       |       |       | SZ CYG             |        |       |       |      |
| 45204.2772         | 12.517 |       | 1.382 |       | 45674.1796         | 9.821  |       | 1.752 | 1.34 |
| 45205.2968         | 12.594 |       | 1.465 |       | 45675.1875         | 9.784  |       | 1.696 | 1.31 |
| 45208.3397         | 12.855 |       | 1.632 |       | 45676.1718         | 9.575  | 1.254 | 1.557 | 1.26 |
| 45209.2889         | 12.928 |       | 1.663 |       | 45679.1522         | 8.952  | 0.909 | 1.762 | 1.08 |
| 45211.3125         | 13.082 |       | 1.758 |       | TX CYG             |        |       |       |      |
| 45213.2968         | 13.260 |       | 1.782 |       | 45503.2812         | 9.109  | 1.338 | 1.761 | 1.60 |
| 45214.2968         | 13.364 |       | 1.798 |       | 45505.2695         | 9.373  | 1.520 | 1.934 | 1.68 |
| 45648.2695         | 12.959 |       | 1.658 | 1.337 | 45508.2538         | 9.694  |       | 2.150 | 1.77 |
| 45649.3046         | 12.978 |       | 1.698 | 1.344 | 45509.2812         | 9.852  | 2.134 | 2.211 | 1.81 |
| 45665.2617         | 12.748 |       | 1.636 | 1.299 | 45512.2889         | 9.904  | 1.959 | 2.091 | 1.78 |
| 45666.1875         | 12.847 |       | 1.645 | 1.327 | 45513.3085         | 9.773  | 1.560 | 1.981 | 1.75 |
| 45674.1953         | 13.333 |       | 1.667 | 1.438 | 45514.2734         | 9.684  | 1.466 | 1.922 | 1.70 |
| 45676.2070         | 13.234 |       | 1.600 | 1.362 | 45515.2851         | 9.400  | 1.308 | 1.803 | 1.62 |
| 45679.1679         | 12.360 |       | 1.217 | 1.138 | 45648.2500         | 8.938  | 1.172 | 1.607 | 1.45 |
| 45683.1567         | 12.651 |       | 1.549 | 1.287 | 45658.1992         | 10.043 |       | 2.192 | 1.80 |
| 45691.1250         | 13.363 |       | 1.771 | 1.447 | VX CYG             |        |       |       |      |
| 45695.1210         | 13.173 |       | 1.605 | 1.299 | 45488.2655         | 10.522 | 1.493 | 2.000 | 1.55 |
| 45705.0976         | 12.917 |       | 1.658 | 1.397 | 45497.2343         | 9.711  | 1.168 | 1.570 | 1.32 |
| 45706.0897         | 12.974 |       | 1.696 | 1.376 | 45498.2500         | 9.772  | 1.281 | 1.635 | 1.37 |
| 45707.0897         | 13.085 |       | 1.741 | 1.392 | 45501.3046         | 9.966  | 1.507 | 1.789 | 1.45 |
| 45877.3905         | 13.011 |       | 1.686 | 1.421 | 45502.2187         | 10.099 | 1.507 | 1.810 | 1.49 |
| 45878.3828         | 13.064 |       | 1.706 | 1.421 | 45503.2734         | 10.132 | 1.458 | 1.847 | 1.49 |
| 45880.3867         | 13.263 |       | 1.816 | 1.432 | 45505.2655         | 10.323 |       | 1.904 | 1.50 |
| 45881.3984         | 13.341 |       | 1.794 | 1.429 | 45508.2500         | 10.499 |       | 1.979 | 1.51 |
| 45886.4022         | 13.237 |       | 1.600 | 1.325 | 45509.2655         | 10.490 |       | 1.924 | 1.51 |
| X CYG              |        |       |       |       | 45512.2695         | 10.268 | 1.313 | 1.703 | 1.42 |
| 45488.2538         | 6.140  | 0.844 | 1.117 | 0.858 | 45513.3046         | 10.094 | 1.051 | 1.583 | 1.39 |
| 45502.3163         | 5.904  | 0.655 | 0.889 | 0.730 | 45514.2655         | 9.626  | 0.900 | 1.432 | 1.26 |
| 45503.2695         | 6.001  | 0.683 | 0.967 | 0.780 | 45515.2734         | 9.517  | 0.920 | 1.421 | 1.25 |
| 45505.2617         | 6.181  | 0.929 | 1.159 | 0.868 | 45648.2460         | 10.517 |       | 2.026 | 1.54 |
| 45508.2421         | 6.518  | 1.176 | 1.362 | 0.976 | 45649.2655         | 10.527 |       | 2.023 | 1.55 |
| 45509.2500         | 6.650  | 1.262 | 1.395 | 1.011 | 45658.1953         |        |       | 2.544 | 1.27 |
| 45512.2578         | 6.892  | 1.262 | 1.432 | 1.030 | BZ CYG             |        |       |       |      |
| 45513.2929         | 6.859  | 1.171 |       | 1.012 | 45488.2968         | 9.999  | 1.216 | 1.517 | 1.34 |
| 45514.2578         | 6.708  | 0.970 | 1.285 | 0.955 | 45503.2655         | 10.443 |       | 1.740 | 1.46 |
| 45515.2655         | 6.588  | 0.835 | 1.190 | 0.920 | 45508.2381         | 10.015 | 1.111 | 1.554 | 1.35 |
| 45644.3046         | 6.896  |       | 1.403 | 1.029 | 45509.2500         | 10.079 | 1.076 | 1.537 | 1.40 |
| 45648.2381         | 6.021  | 0.567 | 0.885 | 0.727 | 45512.2538         | 10.400 | 1.358 | 1.713 | 1.49 |
| 45649.2538         | 5.838  | 0.590 | 0.856 | 0.706 | 45513.2812         | 10.514 |       | 1.776 | 1.50 |
| SZ CYG             |        |       |       |       | 45514.2578         | 10.477 | 1.763 | 1.672 | 1.46 |
| 45488.2851         | 9.472  | 1.447 | 1.670 | 1.287 | 45515.2617         | 10.392 | 1.693 | 1.663 |      |
| 45503.2578         | 9.441  | 1.418 | 1.657 | 1.274 | 45648.2421         | 10.074 | 1.123 | 1.507 | 1.36 |
| 45505.2500         | 9.679  | 1.686 | 1.758 | 1.320 | 45649.2578         | 10.021 | 1.044 | 1.519 | 1.36 |
| 45508.2304         | 9.854  | 1.376 | 1.759 | 1.327 | CB CYG             |        |       |       |      |
| 45509.2421         | 9.736  | 1.256 | 1.625 | 1.308 | 45502.3242         | 9.205  |       | 1.391 | 1.34 |
| 45512.2500         | 7.113  | 0.977 | 1.284 | 1.117 | 45503.2460         | 9.240  |       | 1.385 | 1.15 |
| 45648.2343         | 9.123  | 0.957 | 1.287 | 1.103 | 45505.2471         | 8.386  | 0.754 | 1.003 | 0.92 |
| 45649.2500         | 8.943  | 0.943 | 1.252 | 1.097 | 45508.2226         | 8.689  | 0.955 | 1.291 | 1.07 |
| 45658.1825         | 9.953  |       | 1.817 | 1.325 | 45509.2187         | 8.814  | 1.052 | 1.343 | 1.13 |
| 45660.2804         | 9.720  |       | 1.665 | 1.297 | 45512.2264         | 9.112  | 1.373 | 1.529 | 1.22 |
| 45665.2187         | 9.011  | 0.979 | 1.328 | 1.124 | 45513.2460         | 9.266  | 1.607 | 1.589 | 1.24 |
| 45666.1679         | 9.133  | 1.093 | 1.449 | 1.195 | 45514.2304         | 9.348  |       |       | 1.25 |
| 45668.2147         | 9.325  |       | 1.575 | 1.260 | 45515.2343         | 9.409  |       | 1.609 | 1.26 |

## ПРОДОЛЖЕНИЕ ТАБЛИЦЫ 3

| JD HEL<br>2400000+ | V      | U-R   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-R   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| CD CYG             |        |       |       |       | EZ CYG             |        |       |       |       |
| 45644.2051         | 0.673  | 1.034 | 1.245 |       | 45660.2187         | 10.830 |       | 1.495 | 1.191 |
| 45646.2147         | 0.065  | 1.323 | 1.494 | 1.202 | 45665.1679         | 11.495 |       | 1.762 | 1.348 |
| 45649.2343         | 0.133  | 1.398 | 1.554 | 1.231 | 45666.1280         | 11.420 |       | 1.672 | 1.332 |
| 45658.1679         | 0.337  | 0.755 | 0.944 | 0.877 | 45668.1445         | 11.099 |       | 1.468 | 1.182 |
| 45664.2089         | 0.436  | 0.777 | 1.057 | 0.939 | 45674.1484         | 11.102 |       | 1.690 | 1.291 |
| 45666.2012         | 0.639  | 0.955 | 1.227 | 1.030 | 45676.1250         | 11.453 |       | 1.777 | 1.347 |
| 45667.2695         | 0.731  | 1.053 | 1.310 | 1.090 | 45669.2655         | 10.705 | 1.014 | 1.349 | 1.130 |
| 45668.2460         | 0.842  | 1.136 | 1.398 | 1.140 | 45670.2578         | 10.849 |       | 1.452 | 1.195 |
| 45669.2421         | 0.923  | 1.260 | 1.440 | 1.174 | 45671.2538         | 10.986 |       | 1.562 | 1.224 |
| 45670.2421         | 0.048  | 1.350 | 1.495 | 1.196 | 45672.2421         | 11.130 |       | 1.624 | 1.284 |
| 45671.2421         | 0.140  | 1.450 | 1.560 | 1.210 | 45673.2421         | 11.281 |       | 1.691 | 1.330 |
| 45672.2343         | 0.278  | 1.530 | 1.580 | 1.244 | 45674.2381         | 11.415 |       | 1.729 | 1.329 |
| 45673.2343         | 0.361  | 1.608 | 1.629 | 1.249 | 45675.2343         | 11.470 |       | 1.774 | 1.325 |
| 45674.2264         | 0.462  | 1.614 | 1.633 | 1.269 | 45676.2343         | 11.360 |       | 1.626 | 1.298 |
| 45675.2226         | 0.488  | 1.578 | 1.611 | 1.249 | 45677.2421         | 11.137 |       | 1.498 | 1.221 |
| 45676.2264         | 0.437  | 1.484 | 1.547 | 1.224 | 45678.2264         | 11.066 |       | 1.431 | 1.193 |
| 45677.2264         | 0.300  | 1.182 | 1.460 | 1.195 | 45680.2617         | 10.666 |       | 1.307 | 1.101 |
| 45678.2147         | 0.221  | 1.060 | 1.385 | 1.150 | 45681.2460         | 10.763 |       | 1.383 | 1.154 |
| 45679.2500         | 0.111  | 1.000 | 1.294 | 1.100 | 45682.2343         | 10.920 | 1.181 | 1.478 | 1.231 |
| 45680.2500         | 0.293  | 0.704 | 0.949 | 0.861 | 45683.2381         | 11.049 | 1.336 | 1.570 | 1.273 |
| 45681.2343         | 0.452  | 0.794 | 1.020 | 0.920 | 45686.2421         | 11.454 |       | 1.741 | 1.344 |
| 45682.2226         | 0.539  | 0.843 | 1.122 | 0.985 | 45687.2343         | 11.673 |       | 1.723 | 1.327 |
| 45683.2304         | 0.634  | 0.932 | 1.209 | 1.044 | IV CYG             |        |       |       |       |
| 45686.2304         | 0.917  | 1.263 | 1.451 | 1.157 | 45644.2655         | 13.035 |       | 1.955 |       |
| 45687.2264         | 0.036  | 1.380 | 1.490 | 1.182 | 45646.1756         | 13.171 |       | 2.061 | 1.821 |
| EU CYG             |        |       |       |       | 45649.1992         | 13.445 |       | 2.219 | 1.856 |
| 45649.1913         | 14.460 |       | 1.749 |       | 45658.1405         | 12.501 |       | 1.705 | 1.459 |
| 45650.1992         | 14.332 |       | 1.629 | 1.489 | 45659.1445         | 12.446 |       | 1.509 | 1.439 |
| 45645.1562         | 14.284 |       |       |       | 45660.2109         | 12.494 |       |       | 1.456 |
| 45666.1093         | 14.006 |       | 1.508 | 1.495 | 45663.1405         | 12.831 |       | 1.929 | 1.671 |
| 45667.1367         | 13.337 |       | 1.367 | 1.168 | 45665.1601         | 12.961 |       | 2.010 | 1.680 |
| 45668.1328         | 13.452 |       | 1.401 | 1.298 | 45666.1210         | 13.007 |       | 2.030 | 1.743 |
| 45674.1367         | 13.951 |       |       | 1.505 | 45667.1484         | 13.054 |       | 2.089 | 1.764 |
| 45675.1367         | 14.005 |       | 1.762 | 1.495 | 45668.1367         | 13.204 |       | 2.017 | 1.757 |
| 45676.1093         | 13.160 |       | 1.777 | 1.374 | 45674.1210         | 13.521 |       | 2.101 |       |
| 45677.1210         | 13.138 |       |       | 1.354 | 45675.1405         | 13.912 |       | 1.954 | 1.726 |
| 45678.10878        | 13.131 |       | 1.745 | 1.504 | 45683.1280         | 13.087 |       | 1.921 | 1.573 |
| 45679.1079         | 13.131 |       | 1.660 | 1.534 | 45684.1121         | 13.084 |       |       |       |
| 45679.10790        | 13.130 |       | 1.695 | 1.493 | 45687.0897         | 13.070 |       |       | 1.710 |
| 45675.10800        | 13.095 |       | 1.619 | 1.445 | 45691.0876         | 13.295 |       | 2.112 | 1.626 |
| 45701.0790         | 13.730 |       |       | 1.389 | 45692.0859         | 13.371 |       | 2.250 | 1.855 |
| 45677.2581         | 13.305 |       | 1.341 | 1.249 | 45693.0859         | 13.470 |       | 2.125 | 1.900 |
| 45678.2187         | 13.335 |       | 1.445 | 1.325 | 45694.0897         | 13.526 |       | 2.217 | 1.858 |
| 45680.2530         | 13.699 |       | 1.502 | 1.435 | 45695.0859         | 13.623 |       | 2.114 | 1.907 |
| 45681.2301         | 13.779 |       | 1.673 | 1.467 | 45701.0859         | 13.080 |       |       | 1.630 |
| 45682.2264         | 13.883 |       | 1.660 | 1.478 | 45689.2578         | 13.584 |       | 2.126 | 1.900 |
| 45683.2343         | 13.999 |       | 1.653 | 1.535 | 45670.2530         | 13.594 |       | 2.090 | 1.869 |
| 45686.2304         | 14.272 |       | 1.757 | 1.517 | 45671.2460         | 13.537 |       | 2.100 | 1.810 |
| 45687.2304         | 14.287 |       | 1.709 | 1.465 | 45672.2381         | 13.601 |       | 2.085 | 1.847 |
| EZ CYG             |        |       |       |       | 45673.2381         | 13.584 |       | 2.035 | 1.814 |
| 45648.1845         | 10.814 |       | 1.368 | 1.175 | 45674.2343         | 13.519 |       | 2.019 | 1.764 |
| 45649.2070         | 10.927 |       | 1.503 | 1.254 | 45675.2264         | 12.924 |       | 1.755 | 1.597 |
| 45658.1522         | 10.580 |       | 1.236 | 1.069 | 45676.2304         | 12.417 |       | 1.595 | 1.460 |



| JD HFL<br>2400000+ | V      | U-B    | B-V   | V-R   | JD HFL<br>2400000+ | V      | U-B      | B-V   | V-R   |
|--------------------|--------|--------|-------|-------|--------------------|--------|----------|-------|-------|
| IY CYG             |        |        |       |       | KX CYG             |        |          |       |       |
| 45877.2421         | 12.517 |        | 1.636 | 1.498 | 45190.3593         | 12.231 |          | 2.424 |       |
| 45878.2226         | 12.610 |        | 1.713 | 1.556 | 45191.3593         | 12.048 |          | 2.300 |       |
| 45879.2538         | 12.710 |        | 1.751 | 1.598 | 45192.3554         | 11.319 |          | 2.030 |       |
| 45880.2578         | 12.781 |        | 1.842 | 1.644 | 45193.3867         | 11.426 |          | 2.093 |       |
| 45881.2421         | 12.864 |        | 1.864 | 1.690 | 45194.3750         | 11.470 |          | 2.149 |       |
| 45882.2304         | 12.926 |        | 1.943 | 1.701 | 45195.3593         | 11.576 |          | 2.195 |       |
| 45883.2301         | 12.998 |        | 1.980 | 1.728 | 45198.3788         | 11.820 |          | 2.385 |       |
| 45886.2343         | 13.210 |        | 2.080 | 1.809 | 45201.3554         | 12.075 |          | 2.516 |       |
|                    |        | KX CYG |       |       | 45203.2929         | 12.250 |          | 2.584 |       |
| 44825.4101         | 12.445 |        | 2.557 |       | 45208.3203         | 12.379 |          | 2.495 |       |
| 44827.2734         | 12.382 |        | 2.482 |       | 45209.2655         | 12.248 |          | 2.461 |       |
| 44829.2968         | 12.224 |        | 2.419 |       | 45210.3085         | 12.231 |          | 2.423 |       |
| 44830.2734         | 12.088 |        | 2.361 |       | 45211.2695         | 12.107 |          | 2.352 |       |
| 44831.2695         | 11.334 |        | 2.046 |       | 45212.3046         | 11.379 |          | 2.026 |       |
| 44832.2772         | 11.409 |        | 2.066 |       | 45213.2734         | 11.384 |          | 2.098 |       |
| 44833.2617         | 11.481 |        | 2.141 |       | 45648.2264         | 12.477 |          |       | 2.232 |
| 44834.3788         | 11.593 |        | 2.207 |       | 45649.2460         | 12.384 |          |       | 2.226 |
| 44835.3828         | 11.654 |        | 2.278 |       | 45658.1796         | 11.772 |          |       | 2.064 |
| 44836.4218         | 11.733 |        | 2.365 |       | 45665.2030         | 12.317 |          |       |       |
| 44841.2460         | 12.160 |        | 2.560 |       | 45666.1639         | 12.378 |          |       |       |
| 44844.2421         | 12.422 |        | 2.563 |       | 45674.1756         | 11.330 |          |       | 1.888 |
| 44846.2578         | 12.458 |        | 2.581 |       | 45676.1484         | 11.531 |          |       | 1.978 |
| 44847.2343         | 12.379 |        | 2.516 |       | 45864.2734         | 12.189 |          | 2.548 | 2.248 |
| 44848.2226         | 12.262 |        | 2.439 |       | 45866.2734         | 12.365 |          | 2.582 | 2.241 |
| 44849.2538         | 12.234 |        | 2.438 |       | 45867.2500         | 12.420 |          | 2.607 | 2.268 |
| 44850.2460         | 12.160 |        | 2.369 |       | 45868.3203         | 12.457 |          | 2.575 | 2.267 |
| 44851.2460         | 11.416 |        | 2.046 |       | 45869.3554         | 12.430 |          | 2.570 | 2.247 |
| 44852.2381         | 11.399 |        | 2.076 |       | 45870.4101         | 12.335 |          | 2.499 | 2.214 |
| 44853.2500         | 11.488 |        | 2.133 |       | 45871.4062         | 12.239 |          | 2.434 | 2.168 |
| 44854.2421         | 11.563 |        | 2.213 |       | 45872.3046         | 12.256 |          | 2.390 | 2.158 |
| 44855.2343         | 11.647 |        | 2.257 |       | 45873.3984         | 11.903 |          | 2.218 | 2.061 |
| 44856.2304         | 11.723 |        | 2.305 |       | 45874.3984         | 11.325 |          | 2.025 | 1.894 |
| 44857.2304         | 11.809 |        | 2.374 |       | 45875.2851         | 11.440 | 1.876    | 2.103 | 1.950 |
| 44858.3320         | 11.845 |        | 2.456 |       | 45876.4022         | 11.512 | 1.834    | 2.186 | 1.968 |
| 44859.2381         | 11.979 |        | 2.500 |       | 45877.3867         | 11.598 |          | 2.254 | 2.028 |
| 44880.2109         | 12.037 |        | 2.525 |       | 45878.2851         | 11.660 |          | 2.299 | 2.068 |
| 44881.1992         | 12.119 |        | 2.580 |       | 45879.3671         | 11.763 |          | 2.349 | 2.120 |
| 44882.2460         | 12.254 |        | 2.564 |       | 45880.3710         | 11.838 |          | 2.420 | 2.161 |
| 44884.2070         | 12.419 |        | 2.611 |       | 45881.3631         | 11.955 |          | 2.432 | 2.193 |
| 45174.4179         | 11.500 |        | 2.142 |       | 45882.3554         | 12.026 |          | 2.516 | 2.201 |
| 45175.4375         | 11.554 |        | 2.230 |       | 45883.3710         | 12.128 |          | 2.540 | 2.222 |
| 45176.4022         | 11.656 |        | 2.280 |       | 45886.3750         | 12.380 |          | 2.619 | 2.269 |
| 45178.4022         | 11.808 |        | 2.412 |       | 45887.3788         | 12.425 |          | 2.597 | 2.244 |
| 45179.3125         | 11.896 |        | 2.439 |       |                    |        | V343 CYG |       |       |
| 45180.3125         | 11.961 |        | 2.483 |       | 45665.1835         | 13.803 |          | 1.535 | 1.295 |
| 45181.2695         | 12.076 |        | 2.512 |       | 45666.1445         | 13.669 |          | 1.411 | 1.192 |
| 45182.2734         | 12.157 |        | 2.542 |       | 45667.1679         | 13.679 |          | 1.440 | 1.150 |
| 45183.2968         | 12.271 |        | 2.570 |       | 45668.2030         | 13.089 |          | 1.187 | 1.108 |
| 45184.3006         | 12.341 |        | 2.578 |       | 45674.1639         | 13.678 |          | 1.555 | 1.316 |
| 45186.3320         | 12.438 |        | 2.590 |       | 45675.1679         | 13.772 |          | 1.605 | 1.319 |
| 45187.3046         | 12.412 |        | 2.598 |       | 45676.1405         | 13.040 |          | 1.617 | 1.354 |
| 45188.3203         | 12.343 |        | 2.492 |       | 45690.1131         | 13.666 |          |       | 1.207 |
| 45189.3280         | 12.235 |        | 2.444 |       | 45691.1956         | 13.649 |          | 1.422 | 1.293 |



## ПРОДОЛЖЕНИЕ ТАБЛИЦЫ 3

| JD HEL<br>2400000+ | V      | U-B | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B | B-V   | V-R   |
|--------------------|--------|-----|-------|-------|--------------------|--------|-----|-------|-------|
| V343 CYG           |        |     |       |       | V396 CYG           |        |     |       |       |
| 45692.0976         | 13.133 |     | 1.150 | 1.068 | 45194.3828         | 11.551 |     |       | 2.426 |
| 45693.0976         | 13.189 |     | 1.254 | 1.138 | 45198.3945         | 11.740 |     |       | 2.452 |
| 45694.1014         | 13.315 |     | 1.355 | 1.179 | 45199.3359         | 11.755 |     |       | 2.456 |
| 45695.0937         | 13.452 |     |       | 1.224 | 45201.3671         | 11.794 |     |       | 2.441 |
| 45701.1014         | 13.933 |     | 1.523 | 1.311 | 45203.2695         | 11.781 |     |       | 2.430 |
| 45877.2617         | 13.854 |     | 1.589 | 1.375 | 45204.2617         | 11.790 |     |       | 2.408 |
| 45878.2381         | 13.959 |     | 1.633 | 1.369 | 45205.2851         | 11.791 |     |       | 2.406 |
| V396 CYG           |        |     |       |       | 45207.2929         | 11.761 |     |       | 2.347 |
| 44826.3554         | 11.462 |     | 2.397 |       | 45208.3280         | 11.661 |     |       | 2.270 |
| 44827.2968         | 11.517 |     | 2.415 |       | 45209.2734         | 11.465 |     |       | 2.187 |
| 44829.3163         | 11.587 |     | 2.465 |       | 45210.3163         | 11.200 |     |       | 2.077 |
| 44830.2968         | 11.681 |     | 2.458 |       | 45211.2772         | 11.044 |     |       | 2.020 |
| 44831.2851         | 11.691 |     |       |       | 45212.2812         | 10.970 |     |       | 1.999 |
| 44832.2968         | 11.755 |     | 2.489 |       | 45213.2812         | 10.940 |     |       | 2.020 |
| 44833.2812         | 11.762 |     | 2.460 |       | 45214.2812         | 11.004 |     |       | 2.043 |
| 44834.3984         | 11.799 |     | 2.478 |       | 45488.2421         | 11.299 |     |       | 2.137 |
| 44835.4022         | 11.797 |     | 2.440 |       | 45490.2617         | 11.398 |     |       | 2.159 |
| 44836.4375         | 11.807 |     | 2.438 |       | 45493.2264         | 11.498 |     |       | 2.204 |
| 44845.2304         | 11.097 |     | 2.040 |       | 45496.2655         | 11.643 |     | 2.462 | 2.221 |
| 44847.2460         | 10.946 |     | 2.006 |       | 45498.2264         | 11.699 |     |       | 2.208 |
| 44848.2381         | 10.985 |     | 2.042 |       | 45501.2772         | 11.744 |     | 2.409 | 2.194 |
| 44849.2578         | 11.030 |     | 2.091 |       | 45503.2500         |        |     | 2.408 | 2.208 |
| 44850.2578         | 11.062 |     | 2.130 |       | 45505.2421         | 11.747 |     |       | 2.183 |
| 44851.2538         | 11.122 |     | 2.190 |       | 45508.2726         | 11.468 |     |       | 2.054 |
| 44852.2460         | 11.189 |     | 2.195 |       | 45509.2381         | 11.253 |     | 2.152 | 2.018 |
| 44853.2617         | 11.222 |     | 2.241 |       | 45512.2381         | 10.929 |     | 2.040 | 1.964 |
| 44854.2538         | 11.252 |     | 2.278 |       | 45513.2578         | 10.998 |     | 2.046 | 2.024 |
| 44855.2460         | 11.315 |     | 2.285 |       | 45514.2460         | 10.995 |     | 2.077 | 2.014 |
| 44856.2421         | 11.350 |     | 2.328 |       | 45515.2381         | 11.024 |     | 2.151 | 2.022 |
| 44857.2421         | 11.394 |     | 2.368 |       | 45648.2187         | 11.064 |     | 2.139 | 2.018 |
| 44880.2304         | 10.979 |     | 2.057 |       | 45649.2381         | 11.082 |     | 2.199 | 2.074 |
| 44881.2726         | 10.982 |     | 2.093 |       | 45658.1718         | 11.525 |     |       | 2.187 |
| 44882.2734         | 11.041 |     | 2.078 |       | V430 CYG           |        |     |       |       |
| 44883.2030         | 11.074 |     | 2.140 |       | 44875.4218         | 11.295 |     | 2.150 |       |
| 44884.2304         | 11.133 |     | 2.145 |       | 44877.2812         | 11.303 |     | 2.113 |       |
| 45174.4375         | 11.729 |     | 2.334 |       | 44879.3006         | 10.944 |     | 1.921 |       |
| 45175.4370         | 11.577 |     | 2.240 |       | 44831.2734         | 10.441 |     | 1.770 |       |
| 45176.4356         | 11.374 |     | 2.158 |       | 44832.2812         | 10.692 |     | 1.880 |       |
| 45178.4139         | 10.986 |     | 2.020 |       | 44833.2659         | 10.802 |     | 1.953 |       |
| 45179.3514         | 10.932 |     | 1.998 |       | 44834.3867         | 10.900 |     | 2.043 |       |
| 45180.3457         | 10.962 |     | 2.030 |       | 44835.3905         | 11.139 |     | 2.106 |       |
| 45181.2772         | 11.000 |     | 2.077 |       | 44836.4256         | 11.297 |     | 2.148 |       |
| 45182.2851         | 11.043 |     | 2.111 |       | 44845.2726         | 10.911 |     | 2.037 |       |
| 45183.3085         | 11.097 |     | 2.131 |       | 44846.2655         | 11.090 |     | 2.099 |       |
| 45184.3320         | 11.144 |     | 2.178 |       | 44847.2381         | 11.243 |     | 2.154 |       |
| 45186.3046         | 11.217 |     | 2.252 |       | 44848.2304         | 11.377 |     | 2.159 |       |
| 45187.3359         | 11.270 |     | 2.295 |       | 44849.2538         | 11.374 |     | 2.141 |       |
| 45188.3242         | 11.301 |     | 2.314 |       | 44850.2500         | 11.232 |     | 2.026 |       |
| 45189.3554         | 11.355 |     | 2.351 |       | 44851.2460         | 11.007 |     | 1.942 |       |
| 45190.3750         | 11.392 |     | 2.365 |       | 44852.2421         | 10.863 |     | 1.875 |       |
| 45191.3710         | 11.428 |     | 2.381 |       | 44853.2500         | 10.388 |     | 1.712 |       |
| 45192.3671         | 11.467 |     | 2.385 |       | 44854.2460         | 10.637 |     | 1.853 |       |
| 45193.3905         | 11.538 |     | 2.395 |       | 44855.2343         | 10.761 |     | 1.924 |       |

| JD HEL<br>2400000+ | V      | U-B | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B | B-V   | V-R   |
|--------------------|--------|-----|-------|-------|--------------------|--------|-----|-------|-------|
| V438 CYG           |        |     |       |       | V609 CYG           |        |     |       |       |
| 44856.2343         | 10.894 |     | 2.006 |       | 44847.2538         | 10.764 |     | 1.984 |       |
| 44857.2343         | 11.059 |     | 2.063 |       | 44850.2655         | 10.908 |     | 2.116 |       |
| 44880.2147         | 11.129 |     | 2.130 |       | 44851.2578         | 10.962 |     | 2.145 |       |
| 44881.2070         | 11.264 |     | 2.180 |       | 44852.2500         | 11.078 |     | 2.198 |       |
| 44882.2538         | 11.393 |     | 2.128 |       | 44853.2695         | 11.082 |     | 2.196 |       |
| 44883.1875         | 11.351 |     | 2.085 |       | 44854.2578         | 11.136 |     | 2.217 |       |
| 44884.2187         | 11.138 |     | 1.998 |       | 44856.2500         | 11.189 |     | 2.249 |       |
| 45174.4218         | 11.354 |     | 2.124 |       | 44857.2460         | 11.285 |     | 2.258 |       |
| 45175.4413         | 11.157 |     | 2.014 |       | 44880.2381         | 10.938 |     | 2.114 |       |
| 45178.4101         | 10.364 |     | 1.705 |       | 44881.2304         | 10.917 |     | 2.142 |       |
| 45179.3280         | 10.624 |     | 1.852 |       | 44882.2734         | 10.979 |     | 2.152 |       |
| 45180.3163         | 10.741 |     | 1.921 |       | 44883.2070         | 11.032 |     | 2.195 |       |
| 45181.2734         | 10.874 |     | 2.006 |       | 44884.2343         | 11.100 |     | 2.160 |       |
| 45182.2812         | 11.021 |     | 2.078 |       | 45174.4530         | 11.524 |     | 2.268 |       |
| 45183.3046         | 11.182 |     | 2.124 |       | 45176.4375         | 11.598 |     | 2.291 |       |
| 45184.3085         | 11.332 |     | 2.147 |       | 45178.4256         | 11.473 |     | 2.186 |       |
| 45186.3006         | 11.257 |     | 2.063 |       | 45179.3397         | 11.281 |     | 2.035 |       |
| 45187.3280         | 11.069 |     | 1.959 |       | 45180.3554         | 10.869 |     | 1.903 |       |
| 45188.3006         | 10.889 |     | 1.905 |       | 45181.2968         | 10.546 |     | 1.763 |       |
| 45189.3397         | 10.464 |     | 1.713 |       | 45182.2968         | 10.456 |     | 1.727 |       |
| 45190.3710         | 10.584 |     | 1.834 |       | 45183.3203         | 10.489 |     | 1.754 |       |
| 45191.3671         | 10.702 |     | 1.917 |       | 45184.3397         | 10.548 |     | 1.795 |       |
| 45192.3631         | 10.837 |     | 1.980 |       | 45186.3750         | 10.631 |     | 1.880 |       |
| 45194.3788         | 11.155 |     | 2.107 |       | 45187.3437         | 10.691 |     | 1.929 |       |
| 45198.3905         | 11.090 |     | 1.998 |       | 45188.3359         | 10.732 |     | 1.956 |       |
| 45199.3320         | 10.925 |     | 1.910 |       | 45189.3631         | 10.785 |     | 2.025 |       |
| 45200.4139         | 10.540 |     | 1.748 |       | 45190.3867         | 10.833 |     | 2.045 |       |
| 45201.3631         | 10.498 |     | 1.789 |       | 45191.3788         | 10.881 |     | 2.074 |       |
| 45203.3006         | 10.802 |     | 1.980 |       | 45192.3867         | 10.910 |     | 2.107 |       |
| 45209.3085         | 11.118 |     | 2.007 |       | 45193.4022         | 10.991 |     | 2.135 |       |
| 45210.3125         | 10.953 |     | 1.920 |       | 45194.3867         | 11.017 |     | 2.172 |       |
| 45211.2734         | 10.770 |     | 1.846 |       | 45198.3984         | 11.237 |     | 2.266 |       |
| 45212.3085         | 10.405 |     | 1.724 |       | 45199.3397         | 11.268 |     | 2.257 |       |
| 45213.2772         | 10.646 |     | 1.878 |       | 45201.3710         | 11.348 |     | 2.243 |       |
| 45648.2226         | 10.868 |     | 1.898 | 1.636 | 45203.2772         | 11.385 |     | 2.254 |       |
| 45649.2421         | 10.370 |     | 1.715 | 1.537 | 45204.2655         | 11.433 |     | 2.273 |       |
| 45660.2226         | 10.478 |     |       | 1.537 | 45205.2889         | 11.497 |     | 2.270 |       |
| 45665.1992         | 11.164 |     |       | 1.800 | 45207.2968         | 11.622 |     | 2.263 |       |
| 45666.1601         | 11.300 |     |       | 1.817 | 45208.3320         | 11.604 |     | 2.250 |       |
| 45668.2109         | 11.269 |     |       | 1.773 | 45209.2812         | 11.505 |     | 2.192 |       |
| 45674.1718         | 10.793 |     |       | 1.715 | 45210.3203         | 11.302 |     | 2.098 |       |
| 45676.1445         | 11.118 |     |       | 1.792 | 45211.2812         | 10.926 |     | 1.928 |       |
| V609 CYG           |        |     |       |       | 45212.2889         | 10.569 |     | 1.758 |       |
| 44826.3867         | 11.271 |     | 2.256 |       | 45213.2889         | 10.453 |     | 1.737 |       |
| 44829.3242         | 11.374 |     | 2.263 |       | 45214.2851         | 10.515 |     | 1.751 |       |
| 44830.3514         | 11.450 |     | 2.250 |       | 45489.2772         | 11.481 |     | 2.129 | 1.806 |
| 44831.2889         | 11.414 |     | 2.254 |       | 45493.2500         | 10.421 |     | 1.748 | 1.492 |
| 44832.3046         | 11.509 |     | 2.270 |       | 45496.2851         | 10.574 |     | 1.839 | 1.618 |
| 44833.2851         | 11.589 |     | 2.273 |       | 45498.2421         | 10.677 |     | 1.951 | 1.650 |
| 44834.4062         | 11.617 |     | 2.271 |       | 45501.2929         | 10.812 |     | 2.076 | 1.742 |
| 44835.4101         | 11.560 |     | 2.221 |       | 45503.2851         | 10.908 |     | 2.143 | 1.747 |
| 44836.4453         | 11.510 |     | 2.189 |       | 45505.2734         |        |     | 2.178 | 1.788 |
| 44845.2460         | 10.686 |     | 1.926 |       | 45506.2655         | 11.480 |     |       | 2.077 |

| JD HEL<br>2400000+ | V      | U-B | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B | B-V   | V-R   |
|--------------------|--------|-----|-------|-------|--------------------|--------|-----|-------|-------|
| V609 CYG           |        |     |       |       | V1364CYG           |        |     |       |       |
| 45509.2889         | 11.239 |     |       | 1.859 | 45875.3750         | 12.885 |     | 1.807 | 1.611 |
| 45512.2968         | 11.333 |     |       | 1.919 | 45876.3867         | 12.942 |     | 1.832 | 1.643 |
| 45513.3163         | 11.370 |     |       | 1.858 | 45877.3750         | 13.045 |     | 1.939 | 1.693 |
| 45514.2929         | 11.398 |     |       | 1.863 | 45878.3710         | 13.165 |     | 2.016 | 1.732 |
| 45515.2929         | 11.431 |     |       | 1.877 | 45879.3593         | 13.299 |     | 2.084 | 1.770 |
| 45648.2655         | 10.474 |     | 1.717 | 1.510 | 45880.3631         | 13.408 |     | 2.161 | 1.798 |
| 45649.2929         | 10.474 |     | 1.706 | 1.517 | 45881.3554         | 13.549 |     | 2.144 | 1.820 |
| 45658.2109         | 10.965 |     | 2.086 | 1.761 | 45882.3514         | 13.601 |     | 2.190 | 1.800 |
| 45695.1131         | 11.235 |     | 2.257 | 1.855 | 45883.3671         | 13.608 |     | 2.105 | 1.798 |
| V1364CYG           |        |     |       |       | 45886.3710         | 13.333 |     | 1.925 | 1.715 |
| 45174.4101         | 12.920 |     | 1.788 |       | V1467CYG           |        |     |       |       |
| 45175.4296         | 12.864 |     | 1.853 |       | 45174.3828         | 13.989 |     | 2.713 |       |
| 45176.3945         | 13.003 |     | 1.905 |       | 45175.4218         | 14.027 |     | 2.667 |       |
| 45178.3984         | 13.253 |     | 2.061 |       | 45176.3867         | 14.055 |     | 2.683 |       |
| 45179.3046         | 13.358 |     | 2.117 |       | 45178.3905         | 13.930 |     | 2.623 |       |
| 45180.3359         | 13.475 |     | 2.156 |       | 45179.2929         | 13.862 |     | 2.600 |       |
| 45181.3671         | 13.578 |     | 2.178 |       | 45180.3280         | 13.688 |     | 2.506 |       |
| 45182.3593         | 13.610 |     | 2.142 |       | 45181.3593         | 13.548 |     | 2.432 |       |
| 45183.3631         | 13.529 |     | 2.148 |       | 45182.3476         | 13.370 |     | 2.344 |       |
| 45184.2812         | 13.440 |     | 2.039 |       | 45183.3514         | 13.206 |     | 2.309 |       |
| 45186.3554         | 13.214 |     | 1.893 |       | 45184.2655         | 13.141 |     | 2.193 |       |
| 45187.2929         | 12.929 |     | 1.841 |       | 45186.3437         | 13.050 |     | 2.240 |       |
| 45188.2889         | 12.882 |     | 1.851 |       | 45187.2812         | 13.069 |     | 2.279 |       |
| 45189.3203         | 13.008 |     | 1.885 |       | 45188.2772         | 13.038 |     | 2.252 |       |
| 45190.3476         | 13.120 |     | 1.984 |       | 45189.3046         | 13.095 |     | 2.289 |       |
| 45191.3514         | 13.256 |     | 2.033 |       | 45190.3359         | 13.110 |     | 2.338 |       |
| 45192.3514         | 13.346 |     | 2.108 |       | 45191.3397         | 13.143 |     | 2.369 |       |
| 45193.3788         | 13.466 |     | 2.177 |       | 45192.3397         | 13.144 |     | 2.370 |       |
| 45194.3593         | 13.553 |     | 2.192 |       | 45193.3710         | 13.208 |     | 2.366 |       |
| 45195.3437         | 13.615 |     | 2.181 |       | 45194.3476         | 13.191 |     | 2.417 |       |
| 45198.3710         | 13.340 |     | 1.984 |       | 45195.3280         | 13.228 |     | 2.462 |       |
| 45199.3242         | 13.220 |     | 1.914 |       | 45198.3593         | 13.317 |     | 2.533 |       |
| 45200.3370         | 12.929 |     | 1.792 |       | 45199.3006         | 13.338 |     | 2.526 |       |
| 45201.3476         | 12.900 |     | 1.821 |       | 45200.3203         | 13.362 |     | 2.551 |       |
| 45203.2617         | 13.109 |     | 1.999 |       | 45201.3359         | 13.395 |     | 2.521 |       |
| 45204.2538         | 13.246 |     | 2.059 |       | 45203.2558         | 13.429 |     | 2.595 |       |
| 45205.2734         | 13.368 |     | 2.105 |       | 45204.2460         | 13.464 |     | 2.596 |       |
| 45207.2812         | 13.560 |     | 2.185 |       | 45206.2655         | 13.525 |     | 2.569 |       |
| 45208.3085         | 13.637 |     | 2.164 |       | 45207.2695         | 13.529 |     | 2.637 |       |
| 45209.2570         | 13.561 |     | 2.188 |       | 45208.2929         | 13.594 |     | 2.623 |       |
| 45210.2851         | 13.413 |     | 2.038 |       | 45209.2421         | 13.595 |     | 2.627 |       |
| 45211.2578         | 13.339 |     | 2.002 |       | 45210.2493         | 13.651 |     | 2.627 |       |
| 45213.2655         | 12.711 |     | 1.812 |       | 45211.2441         | 13.697 |     | 2.725 |       |
| 45214.2627         | 12.936 |     | 1.812 |       | 45212.2751         | 13.731 |     | 2.605 |       |
| 45215.2947         | 12.929 |     | 1.812 |       | 45213.2751         | 13.771 |     | 2.719 |       |
| 45216.2947         | 12.929 |     | 1.812 |       | 45214.2751         | 13.771 |     | 2.719 |       |
| 45217.2947         | 12.929 |     | 1.812 |       | 45215.2751         | 13.771 |     | 2.719 |       |
| 45218.2947         | 12.929 |     | 1.812 |       | 45216.2751         | 13.771 |     | 2.719 |       |
| 45219.2947         | 12.929 |     | 1.812 |       | 45217.2751         | 13.771 |     | 2.719 |       |
| 45220.2947         | 12.929 |     | 1.812 |       | 45218.2751         | 13.771 |     | 2.719 |       |
| 45221.2947         | 12.929 |     | 1.812 |       | 45219.2751         | 13.771 |     | 2.719 |       |
| 45222.2947         | 12.929 |     | 1.812 |       | 45220.2751         | 13.771 |     | 2.719 |       |
| 45223.2947         | 12.929 |     | 1.812 |       | 45221.2751         | 13.771 |     | 2.719 |       |
| 45224.2947         | 12.929 |     | 1.812 |       | 45222.2751         | 13.771 |     | 2.719 |       |
| 45225.2947         | 12.929 |     | 1.812 |       | 45223.2751         | 13.771 |     | 2.719 |       |
| 45226.2947         | 12.929 |     | 1.812 |       | 45224.2751         | 13.771 |     | 2.719 |       |
| 45227.2947         | 12.929 |     | 1.812 |       | 45225.2751         | 13.771 |     | 2.719 |       |
| 45228.2947         | 12.929 |     | 1.812 |       | 45226.2751         | 13.771 |     | 2.719 |       |
| 45229.2947         | 12.929 |     | 1.812 |       | 45227.2751         | 13.771 |     | 2.719 |       |
| 45230.2947         | 12.929 |     | 1.812 |       | 45228.2751         | 13.771 |     | 2.719 |       |
| 45231.2947         | 12.929 |     | 1.812 |       | 45229.2751         | 13.771 |     | 2.719 |       |
| 45232.2947         | 12.929 |     | 1.812 |       | 45230.2751         | 13.771 |     | 2.719 |       |
| 45233.2947         | 12.929 |     | 1.812 |       | 45231.2751         | 13.771 |     | 2.719 |       |
| 45234.2947         | 12.929 |     | 1.812 |       | 45232.2751         | 13.771 |     | 2.719 |       |
| 45235.2947         | 12.929 |     | 1.812 |       | 45233.2751         | 13.771 |     | 2.719 |       |
| 45236.2947         | 12.929 |     | 1.812 |       | 45234.2751         | 13.771 |     | 2.719 |       |
| 45237.2947         | 12.929 |     | 1.812 |       | 45235.2751         | 13.771 |     | 2.719 |       |
| 45238.2947         | 12.929 |     | 1.812 |       | 45236.2751         | 13.771 |     | 2.719 |       |
| 45239.2947         | 12.929 |     | 1.812 |       | 45237.2751         | 13.771 |     | 2.719 |       |
| 45240.2947         | 12.929 |     | 1.812 |       | 45238.2751         | 13.771 |     | 2.719 |       |
| 45241.2947         | 12.929 |     | 1.812 |       | 45239.2751         | 13.771 |     | 2.719 |       |
| 45242.2947         | 12.929 |     | 1.812 |       | 45240.2751         | 13.771 |     | 2.719 |       |
| 45243.2947         | 12.929 |     | 1.812 |       | 45241.2751         | 13.771 |     | 2.719 |       |
| 45244.2947         | 12.929 |     | 1.812 |       | 45242.2751         | 13.771 |     | 2.719 |       |
| 45245.2947         | 12.929 |     | 1.812 |       | 45243.2751         | 13.771 |     | 2.719 |       |
| 45246.2947         | 12.929 |     | 1.812 |       | 45244.2751         | 13.771 |     | 2.719 |       |
| 45247.2947         | 12.929 |     | 1.812 |       | 45245.2751         | 13.771 |     | 2.719 |       |
| 45248.2947         | 12.929 |     | 1.812 |       | 45246.2751         | 13.771 |     | 2.719 |       |
| 45249.2947         | 12.929 |     | 1.812 |       | 45247.2751         | 13.771 |     | 2.719 |       |
| 45250.2947         | 12.929 |     | 1.812 |       | 45248.2751         | 13.771 |     | 2.719 |       |
| 45251.2947         | 12.929 |     | 1.812 |       | 45249.2751         | 13.771 |     | 2.719 |       |
| 45252.2947         | 12.929 |     | 1.812 |       | 45250.2751         | 13.771 |     | 2.719 |       |
| 45253.2947         | 12.929 |     | 1.812 |       | 45251.2751         | 13.771 |     | 2.719 |       |
| 45254.2947         | 12.929 |     | 1.812 |       | 45252.2751         | 13.771 |     | 2.719 |       |
| 45255.2947         | 12.929 |     | 1.812 |       | 45253.2751         | 13.771 |     | 2.719 |       |
| 45256.2947         | 12.929 |     | 1.812 |       | 45254.2751         | 13.771 |     | 2.719 |       |
| 45257.2947         | 12.929 |     | 1.812 |       | 45255.2751         | 13.771 |     | 2.719 |       |
| 45258.2947         | 12.929 |     | 1.812 |       | 45256.2751         | 13.771 |     | 2.719 |       |
| 45259.2947         | 12.929 |     | 1.812 |       | 45257.2751         | 13.771 |     | 2.719 |       |
| 45260.2947         | 12.929 |     | 1.812 |       | 45258.2751         | 13.771 |     | 2.719 |       |
| 45261.2947         | 12.929 |     | 1.812 |       | 45259.2751         | 13.771 |     | 2.719 |       |
| 45262.2947         | 12.929 |     | 1.812 |       | 45260.2751         | 13.771 |     | 2.719 |       |
| 45263.2947         | 12.929 |     | 1.812 |       | 45261.2751         | 13.771 |     | 2.719 |       |
| 45264.2947         | 12.929 |     | 1.812 |       | 45262.2751         | 13.771 |     | 2.719 |       |
| 45265.2947         | 12.929 |     | 1.812 |       | 45263.2751         | 13.771 |     | 2.719 |       |
| 45266.2947         | 12.929 |     | 1.812 |       | 45264.2751         | 13.771 |     | 2.719 |       |
| 45267.2947         | 12.929 |     | 1.812 |       | 45265.2751         | 13.771 |     | 2.719 |       |
| 45268.2947         | 12.929 |     | 1.812 |       | 45266.2751         | 13.771 |     | 2.719 |       |
| 45269.2947         | 12.929 |     | 1.812 |       | 45267.2751         | 13.771 |     | 2.719 |       |
| 45270.2947         | 12.929 |     | 1.812 |       | 45268.2751         | 13.771 |     | 2.719 |       |
| 45271.2947         | 12.929 |     | 1.812 |       | 45269.2751         | 13.771 |     | 2.719 |       |
| 45272.2947         | 12.929 |     | 1.812 |       | 45270.2751         | 13.771 |     | 2.719 |       |
| 45273.2947         | 12.929 |     | 1.812 |       | 45271.2751         | 13.771 |     | 2.719 |       |
| 45274.2947         | 12.929 |     | 1.812 |       | 45272.2751         | 13.771 |     | 2.719 |       |

| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V     | U-B   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|-------|-------|-------|-------|
| V1467CY0           |        |       |       |       | AA GEM             |       |       |       |       |
| 45844.4022         | 13.067 |       | 2.223 | 2.035 | 45691.3631         | 9.728 | 0.664 | 1.035 | 0.874 |
| 45846.4022         | 13.047 |       | 2.216 | 2.027 | 45692.4296         | 9.489 | 0.568 | 0.933 | 0.796 |
| 45848.3710         | 13.038 |       | 2.341 | 2.031 | 45693.4335         | 9.422 | 0.573 | 0.931 | 0.807 |
| 45849.3867         | 13.120 |       | 2.361 | 2.078 | 45694.3359         | 9.487 | 0.662 | 0.973 | 0.863 |
| 45870.3788         | 13.145 |       | 2.348 | 2.127 | 45695.3046         | 9.587 | 0.761 | 1.079 | 0.896 |
| 45871.3945         | 13.168 |       | 2.366 | 2.106 | 45705.2617         | 9.450 | 0.606 | 0.956 | 0.803 |
| 45872.3788         | 13.177 |       | 2.422 | 2.123 | 45706.2734         | 9.533 | 0.705 | 1.055 | 0.868 |
| 45873.3828         | 13.231 |       | 2.478 | 2.156 | 45707.2772         | 9.658 | 0.813 | 1.148 | 0.914 |
| 45874.3828         | 13.231 |       | 2.472 | 2.161 | Z LAC              |       |       |       |       |
| 45875.3671         | 13.297 |       | 2.519 | 2.198 | 45648.3006         | 8.225 | 0.739 | 1.086 | 0.914 |
| 45876.3828         | 13.284 |       | 2.496 | 2.177 | 45649.3125         | 8.373 | 0.875 | 1.165 | 0.962 |
| 45877.3671         | 13.306 |       | 2.557 | 2.205 | 45660.2500         | 8.357 | 0.893 | 1.210 | 0.962 |
| 45878.3631         | 13.349 |       | 2.517 | 2.211 | 45664.2421         | 8.809 |       | 1.351 | 1.043 |
| 45879.3514         | 13.387 |       | 2.577 | 2.216 | 45665.2734         | 8.604 | 0.921 | 1.184 | 0.978 |
| 45880.3593         | 13.393 |       | 2.601 | 2.241 | 45666.1953         | 8.453 | 0.704 | 1.107 | 0.931 |
| 45881.3514         | 13.430 |       | 2.652 | 2.239 | 45668.2500         | 7.905 | 0.584 | 0.858 | 0.773 |
| 45882.3437         | 13.451 |       | 2.632 | 2.240 | 45674.2109         | 8.842 | 1.085 | 1.400 | 1.059 |
| 45883.3593         | 13.476 |       | 2.641 | 2.247 | 45676.2226         | 8.583 | 0.785 | 1.196 | 0.987 |
| 45884.3671         | 13.556 |       | 2.615 | 2.269 | 45679.1756         | 7.886 | 0.594 | 0.857 | 0.776 |
| 45887.3710         | 13.584 |       | 2.707 | 2.282 | 45683.1913         | 8.535 | 0.982 | 1.299 | 1.024 |
| V1726CY0           |        |       |       |       | 45688.1484         | 8.433 | 0.731 | 1.090 | 0.928 |
| 45489.2851         | 9.063  |       | 0.904 | 0.793 | 45689.1756         | 8.294 | 0.731 | 1.044 | 0.871 |
| 45490.2734         | 8.934  |       | 0.860 | 0.755 | 45691.1445         | 8.161 | 0.724 | 1.050 | 0.877 |
| 45493.2381         | 9.056  |       | 0.930 | 0.800 | 45695.1367         | 8.731 | 1.126 | 1.368 | 1.061 |
| 45496.2734         | 9.011  |       | 0.897 | 0.811 | 45706.1014         | 8.727 | 1.141 | 1.378 | 1.041 |
| 45497.2264         | 9.132  |       | 0.926 | 0.811 | 45707.0976         | 8.847 | 1.148 | 1.385 | 1.055 |
| 45498.2343         | 9.031  |       | 0.890 | 0.801 | T MON              |       |       |       |       |
| 45501.2851         |        |       | 0.941 | 0.801 | 45649.5000         | 5.594 | 0.456 | 0.910 | 0.720 |
| 45503.2929         | 8.930  |       | 0.826 | 0.779 | 45665.4960         | 6.574 | 1.264 | 1.469 | 1.024 |
| 45505.2812         | 9.067  |       | 0.947 | 0.811 | 45687.3671         | 6.264 | 1.193 | 1.398 | 1.002 |
| 45508.2695         | 8.952  |       | 0.857 | 0.773 | 45690.4256         | 6.492 | 1.324 | 1.413 | 1.023 |
| 45509.3006         | 9.095  |       | 0.900 | 0.818 | 45691.4022         | 6.512 | 1.305 | 1.433 | 1.024 |
| 45512.3085         | 8.916  |       | 0.854 | 0.779 | 45692.4764         | 6.561 | 1.335 | 1.434 | 1.020 |
| 45513.3280         | 9.056  |       | 0.908 | 0.817 | 45693.2929         | 6.601 | 1.264 | 1.419 | 1.031 |
| 45514.3006         | 9.097  |       | 0.927 | 0.805 | 45694.2617         | 6.602 | 1.236 | 1.417 | 1.018 |
| 45515.3046         | 8.992  |       | 0.862 | 0.798 | 45695.3262         | 6.607 | 1.185 | 1.374 | 1.018 |
| 45648.2655         | 8.962  |       | 0.855 | 0.772 | 45704.3006         | 5.715 | 0.651 | 0.937 | 0.789 |
| 45649.2968         | 9.083  |       | 0.882 | 0.815 | 45705.2812         | 5.787 | 0.705 | 1.001 | 0.792 |
| 45658.2147         |        |       | 0.935 | 0.786 | 45706.2889         | 5.874 | 0.735 | 1.070 | 0.844 |
| 45658.2421         |        |       | 0.921 | 0.821 | 45707.2968         | 5.908 | 0.828 | 1.117 | 0.964 |
| 45695.1171         | 8.992  |       | 0.905 | 0.783 | SV MON             |       |       |       |       |
| 45877.4022         | 9.029  |       | 0.905 | 0.805 | 45649.5078         | 8.651 | 0.917 | 1.239 | 0.959 |
| 45878.3984         | 9.082  | 0.614 | 0.946 | 0.824 | 45665.5000         | 8.464 | 0.708 | 1.120 | 0.970 |
| 45881.3788         | 8.998  | 0.614 | 0.886 | 0.789 | 45666.4609         | 8.507 | 0.740 | 1.102 | 0.882 |
| 45882.3710         | 9.091  | 0.616 | 0.945 | 0.822 | 45676.4530         | 8.605 | 1.163 | 1.360 | 1.013 |
| 45883.3828         | 9.091  | 0.595 | 0.927 | 0.811 | 45679.4335         | 8.744 | 1.050 | 1.298 | 1.002 |
| 45886.3867         | 9.073  | 0.617 | 0.938 | 0.832 | 45687.3750         | 8.099 | 0.819 | 1.102 | 0.892 |
| AA GEM             |        |       |       |       | 45691.4062         | 8.566 | 1.173 | 1.328 | 1.005 |
| 45664.4179         | 10.005 | 0.852 | 1.218 | 0.974 | 45692.4881         | 8.710 | 1.284 | 1.363 | 1.026 |
| 45676.4062         | 10.043 | 1.033 | 1.300 | 1.011 | 45693.3006         | 8.779 | 1.225 | 1.370 | 1.031 |
| 45679.3905         | 9.796  | 0.644 | 1.061 | 0.904 | 45694.2655         | 8.801 | 1.134 | 1.323 | 1.020 |
| 45682.3242         | 9.976  |       | 1.306 | 1.009 | 45695.3280         | 8.617 | 0.916 | 1.205 | 0.962 |
| 45690.3631         | 9.783  | 0.677 | 1.082 | 0.897 | 45704.3085         | 8.286 | 0.988 | 1.235 | 0.941 |



| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| SV MON             |        |       |       |       | BM PER             |        |       |       |       |
| 45705.2851         | 8.422  | 1.057 | 1.267 | 0.948 | 45201.4687         | 10.223 |       | 1.857 |       |
| 45706.2929         | 8.534  | 1.127 | 1.328 | 0.994 | 45205.4022         | 10.491 |       | 2.017 |       |
| 45707.2968         | 8.650  | 1.205 | 1.364 | 1.016 | 45649.4256         | 10.938 |       |       | 1.679 |
| SV PER             |        |       |       |       | 45665.4335         | 10.597 |       |       | 1.687 |
| 45649.4375         | 9.352  | 0.561 | 1.167 | 0.987 | 45666.3320         | 10.671 |       |       | 1.686 |
| 45660.3945         | 9.340  | 0.542 | 1.219 | 1.033 | 45676.3320         | 10.140 | 1.138 | 1.594 | 1.424 |
| 45665.4492         | 8.670  | 0.541 | 0.988 | 0.864 | 45679.3242         | 9.931  | 1.152 | 1.583 | 1.405 |
| 45666.3476         | 8.766  | 0.550 | 1.025 | 0.896 | 45687.2381         | 10.506 |       | 2.046 | 1.630 |
| 45676.3514         | 8.660  | 0.528 | 0.965 | 0.857 | 45689.3554         | 10.660 | 2.238 | 2.069 | 1.680 |
| 45679.3397         | 8.988  | 0.604 | 1.178 | 0.949 | 45690.2381         | 10.752 | 2.451 | 2.078 | 1.703 |
| 45687.2500         | 8.633  | 0.501 | 0.932 | 0.825 | 45691.2460         | 10.811 | 2.269 | 2.099 | 1.707 |
| 45688.2695         | 8.730  |       | 1.027 | 0.850 | 45692.2343         | 10.878 | 2.084 | 2.104 | 1.711 |
| 45689.3671         | 8.852  | 0.615 | 1.097 | 0.932 | 45693.2187         | 10.910 | 2.154 | 2.078 | 1.710 |
| 45690.2695         | 8.976  | 0.648 | 1.149 | 0.971 | 45694.2226         | 10.917 | 1.994 | 2.069 | 1.692 |
| 45691.2655         | 9.118  | 0.644 | 1.177 | 1.008 | 45695.2381         | 10.937 | 1.889 | 2.032 | 1.679 |
| 45692.2617         | 9.252  | 0.631 | 1.203 | 1.024 | 45705.1484         | 10.146 | 1.481 | 1.779 | 1.514 |
| 45693.2381         | 9.354  | 0.618 | 1.184 | 1.023 | 45706.1679         | 10.212 | 1.583 | 1.835 | 1.553 |
| 45694.2343         | 9.334  | 0.566 | 1.161 | 0.992 | 45707.1679         | 10.277 | 1.693 | 1.888 | 1.588 |
| 45695.2500         | 9.113  | 0.536 | 1.084 | 0.942 | HZ PER             |        |       |       |       |
| 45705.1601         | 9.356  | 0.567 | 1.166 | 1.004 | 45179.4453         | 14.134 |       | 2.322 |       |
| 45706.1796         | 9.137  | 0.543 | 1.089 | 0.938 | 45180.4062         | 14.096 |       | 2.207 |       |
| 45707.1796         | 9.035  | 0.534 | 1.035 | 0.903 | 45181.4139         | 13.858 |       | 2.090 |       |
| BM PER             |        |       |       |       | 45182.4101         | 13.872 |       | 2.130 |       |
| 44827.4256         | 9.674  |       | 1.468 |       | 45183.4179         | 13.340 |       | 1.976 |       |
| 44829.4256         | 9.877  |       | 1.516 |       | 45184.4022         | 13.426 |       | 1.940 |       |
| 44830.4453         | 9.995  |       | 1.594 |       | 45186.4375         | 13.633 |       | 2.117 |       |
| 44831.3828         | 10.043 |       | 1.689 |       | 45188.4609         | 13.859 |       | 2.280 |       |
| 44832.4413         | 10.122 |       | 1.772 |       | 45189.4530         | 14.018 |       | 2.319 |       |
| 44833.4218         | 10.195 |       | 1.810 |       | 45191.4492         | 14.180 |       | 2.174 |       |
| 44834.4492         | 10.260 |       | 1.868 |       | 45192.4492         | 13.889 |       | 2.075 |       |
| 44835.4492         | 10.328 |       | 1.916 |       | 45193.4492         | 13.930 |       | 2.073 |       |
| 44880.4101         | 10.224 |       | 1.910 |       | 45194.4413         | 13.435 |       | 1.912 |       |
| 44881.3671         | 10.319 |       | 1.937 |       | 45196.4453         | 13.696 |       | 2.218 |       |
| 44883.4960         | 10.433 |       | 2.012 |       | 45199.4296         | 13.835 |       | 2.249 |       |
| 44883.3203         | 10.461 |       | 1.978 |       | 45200.1492         | 13.982 |       | 2.306 |       |
| 44884.3671         | 10.551 |       | 2.022 |       | 45201.4453         | 14.122 |       | 2.276 |       |
| 45180.4139         | 10.357 |       | 1.967 |       | 45205.4101         | 13.862 |       | 2.090 |       |
| 45181.4179         | 10.418 |       | 1.974 |       | 45649.4256         | 10.938 |       |       | 1.679 |
| 45182.4179         | 10.477 |       | 2.019 |       | 45665.4335         | 10.597 |       |       | 1.687 |
| 45183.4256         | 10.576 |       | 2.066 |       | 45666.3320         | 10.671 |       |       | 1.686 |
| 45184.4101         | 10.669 |       | 2.077 |       | 45676.3320         | 10.140 | 1.138 | 1.594 | 1.424 |
| 45186.4413         | 10.800 |       | 2.119 |       | 45679.3242         | 9.931  | 1.152 | 1.583 | 1.405 |
| 45187.4139         | 10.881 |       | 2.185 |       | 45687.2381         | 10.506 |       | 2.046 | 1.630 |
| 45188.4179         | 10.897 |       | 2.097 |       | 45689.3554         | 10.660 | 2.238 | 2.069 | 1.680 |
| 45189.4453         | 10.916 |       | 2.072 |       | 45690.2381         | 10.752 | 2.451 | 2.078 | 1.703 |
| 45190.4296         | 10.935 |       | 2.097 |       | 45691.2460         | 10.811 | 2.269 | 2.099 | 1.707 |
| 45191.3127         | 10.954 |       | 2.099 |       | 45692.2343         | 10.878 | 2.084 | 2.104 | 1.711 |
| 45192.4296         | 10.973 |       | 2.074 |       | 45693.2187         | 10.910 | 2.154 | 2.078 | 1.710 |
| 45193.4296         | 10.992 |       | 2.097 |       | 45694.2226         | 10.917 | 1.994 | 2.069 | 1.692 |
| 45194.4296         | 11.011 |       | 2.074 |       | 45695.2381         | 10.937 | 1.889 | 2.032 | 1.679 |
| 45195.4296         | 11.030 |       | 2.074 |       | 45705.1484         | 10.146 | 1.481 | 1.779 | 1.514 |
| 45196.4296         | 11.049 |       | 2.074 |       | 45706.1679         | 10.212 | 1.583 | 1.835 | 1.553 |
| 45197.4296         | 11.068 |       | 2.074 |       | 45707.1679         | 10.277 | 1.693 | 1.888 | 1.588 |
| 45198.4296         | 11.087 |       | 2.074 |       |                    |        |       |       |       |
| 45199.4296         | 11.106 |       | 2.074 |       |                    |        |       |       |       |
| 45200.4296         | 11.125 |       | 2.074 |       |                    |        |       |       |       |
| 45201.4296         | 11.144 |       | 2.074 |       |                    |        |       |       |       |
| 45202.4296         | 11.163 |       | 2.074 |       |                    |        |       |       |       |
| 45203.4296         | 11.182 |       | 2.074 |       |                    |        |       |       |       |
| 45204.4296         | 11.201 |       | 2.074 |       |                    |        |       |       |       |
| 45205.4296         | 11.220 |       | 2.074 |       |                    |        |       |       |       |
| 45206.4296         | 11.239 |       | 2.074 |       |                    |        |       |       |       |
| 45207.4296         | 11.258 |       | 2.074 |       |                    |        |       |       |       |
| 45208.4296         | 11.277 |       | 2.074 |       |                    |        |       |       |       |
| 45209.4296         | 11.296 |       | 2.074 |       |                    |        |       |       |       |
| 45210.4296         | 11.315 |       | 2.074 |       |                    |        |       |       |       |
| 45211.4296         | 11.334 |       | 2.074 |       |                    |        |       |       |       |
| 45212.4296         | 11.353 |       | 2.074 |       |                    |        |       |       |       |
| 45213.4296         | 11.372 |       | 2.074 |       |                    |        |       |       |       |
| 45214.4296         | 11.391 |       | 2.074 |       |                    |        |       |       |       |
| 45215.4296         | 11.410 |       | 2.074 |       |                    |        |       |       |       |
| 45216.4296         | 11.429 |       | 2.074 |       |                    |        |       |       |       |
| 45217.4296         | 11.448 |       | 2.074 |       |                    |        |       |       |       |
| 45218.4296         | 11.467 |       | 2.074 |       |                    |        |       |       |       |
| 45219.4296         | 11.486 |       | 2.074 |       |                    |        |       |       |       |
| 45220.4296         | 11.505 |       | 2.074 |       |                    |        |       |       |       |
| 45221.4296         | 11.524 |       | 2.074 |       |                    |        |       |       |       |
| 45222.4296         | 11.543 |       | 2.074 |       |                    |        |       |       |       |
| 45223.4296         | 11.562 |       | 2.074 |       |                    |        |       |       |       |
| 45224.4296         | 11.581 |       | 2.074 |       |                    |        |       |       |       |
| 45225.4296         | 11.600 |       | 2.074 |       |                    |        |       |       |       |
| 45226.4296         | 11.619 |       | 2.074 |       |                    |        |       |       |       |
| 45227.4296         | 11.638 |       | 2.074 |       |                    |        |       |       |       |
| 45228.4296         | 11.657 |       | 2.074 |       |                    |        |       |       |       |
| 45229.4296         | 11.676 |       | 2.074 |       |                    |        |       |       |       |
| 45230.4296         | 11.695 |       | 2.074 |       |                    |        |       |       |       |
| 45231.4296         | 11.714 |       | 2.074 |       |                    |        |       |       |       |
| 45232.4296         | 11.733 |       | 2.074 |       |                    |        |       |       |       |
| 45233.4296         | 11.752 |       | 2.074 |       |                    |        |       |       |       |
| 45234.4296         | 11.771 |       | 2.074 |       |                    |        |       |       |       |
| 45235.4296         | 11.790 |       | 2.074 |       |                    |        |       |       |       |
| 45236.4296         | 11.809 |       | 2.074 |       |                    |        |       |       |       |
| 45237.4296         | 11.828 |       | 2.074 |       |                    |        |       |       |       |
| 45238.4296         | 11.847 |       | 2.074 |       |                    |        |       |       |       |
| 45239.4296         | 11.866 |       | 2.074 |       |                    |        |       |       |       |
| 45240.4296         | 11.885 |       | 2.074 |       |                    |        |       |       |       |
| 45241.4296         | 11.904 |       | 2.074 |       |                    |        |       |       |       |
| 45242.4296         | 11.923 |       | 2.074 |       |                    |        |       |       |       |
| 45243.4296         | 11.942 |       | 2.074 |       |                    |        |       |       |       |
| 45244.4296         | 11.961 |       | 2.074 |       |                    |        |       |       |       |
| 45245.4296         | 11.980 |       | 2.074 |       |                    |        |       |       |       |
| 45246.4296         | 11.999 |       | 2.074 |       |                    |        |       |       |       |
| 45247.4296         | 12.018 |       | 2.074 |       |                    |        |       |       |       |
| 45248.4296         | 12.037 |       | 2.074 |       |                    |        |       |       |       |
| 45249.4296         | 12.056 |       | 2.074 |       |                    |        |       |       |       |
| 45250.4296         | 12.075 |       | 2.074 |       |                    |        |       |       |       |
| 45251.4296         | 12.094 |       | 2.074 |       |                    |        |       |       |       |
| 45252.4296         | 12.113 |       | 2.074 |       |                    |        |       |       |       |
| 45253.4296         | 12.132 |       | 2.074 |       |                    |        |       |       |       |
| 45254.4296         | 12.151 |       | 2.074 |       |                    |        |       |       |       |
| 45255.4296         | 12.170 |       | 2.074 |       |                    |        |       |       |       |
| 45256.4296         | 12.189 |       | 2.074 |       |                    |        |       |       |       |
| 45257.4296         | 12.208 |       | 2.074 |       |                    |        |       |       |       |
| 45258.4296         | 12.227 |       | 2.074 |       |                    |        |       |       |       |
| 45259.4296         | 12.246 |       | 2.074 |       |                    |        |       |       |       |
| 45260.4296         | 12.265 |       | 2.074 |       |                    |        |       |       |       |
| 45261.4296         | 12.284 |       | 2.074 |       |                    |        |       |       |       |
| 45262.4296         | 12.303 |       | 2.074 |       |                    |        |       |       |       |
| 45263.4296         | 12.322 |       | 2.074 |       |                    |        |       |       |       |
| 45264.4296         | 12.341 |       | 2.074 |       |                    |        |       |       |       |
| 45265.4296         | 12.360 |       | 2.074 |       |                    |        |       |       |       |
| 45266.4296         | 12.379 |       | 2.074 |       |                    |        |       |       |       |
| 45267.4296         | 12.398 |       | 2.074 |       |                    |        |       |       |       |
| 45268.4296         | 12.417 |       | 2.074 |       |                    |        |       |       |       |
| 45269.4296         | 12.436 |       | 2.074 |       |                    |        |       |       |       |
| 45270.4296         | 12.455 |       | 2.074 |       |                    |        |       |       |       |
| 45271.4296         | 12.474 |       | 2.074 |       |                    |        |       |       |       |
| 45272.4296         | 12.493 |       | 2.074 |       |                    |        |       |       |       |
| 45273.4296         | 12.512 |       | 2.074 |       |                    |        |       |       |       |
| 45274.4296         | 12.531 |       | 2.074 |       |                    |        |       |       |       |

## ПРОДОЛЖЕНИЕ ТАБЛИЦЫ 3

| JD HEL<br>2400000+ | V      | U-R   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-R   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| OT PFR             |        |       |       |       | VZ PUP             |        |       |       |       |
| 45180.4375         | 13.343 |       | 2.310 |       | 45704.3750         | 10.158 |       | 1.419 | 1.135 |
| 45181.4335         | 13.386 |       | 2.296 |       | 45705.3554         | 10.310 |       | 1.442 | 1.193 |
| 45182.4375         | 13.446 |       | 2.390 |       | 45706.3437         | 10.230 | 1.089 | 1.395 | 1.163 |
| 45183.4375         | 13.496 |       | 2.440 |       | 45707.3593         | 10.010 | 0.985 | 1.287 | 1.080 |
| 45184.4218         | 13.556 |       | 2.385 |       | AD PUP             |        |       |       |       |
| 45187.4492         | 13.775 |       | 2.493 |       | 45676.5155         | 10.401 | 0.998 | 1.357 | 0.988 |
| 45188.4256         | 13.797 |       | 2.419 |       | 45687.4647         | 10.208 |       | 1.331 | 1.090 |
| 45189.4687         | 13.853 |       | 2.384 |       | 45691.4726         | 10.102 |       | 1.177 | 0.932 |
| 45190.4609         | 13.868 |       | 2.391 |       | 45692.3867         | 10.038 |       | 1.075 | 0.897 |
| 45191.4609         | 13.925 |       | 2.522 |       | 45693.3945         | 9.916  | 0.666 | 1.062 | 0.857 |
| 45192.4609         | 13.904 |       | 2.446 |       | 45694.4062         | 9.262  | 0.510 | 0.717 | 0.670 |
| 45193.4609         | 13.968 |       | 2.492 |       | 45704.3788         | 10.309 |       | 1.280 | 1.019 |
| 45194.4570         | 13.999 |       | 2.319 |       | 45705.3593         | 10.003 | 0.712 | 1.125 | 0.921 |
| 45198.4609         | 13.011 |       | 1.976 |       | 45706.3514         | 10.070 | 0.725 | 1.078 | 0.920 |
| 45199.4492         | 13.015 |       | 1.987 |       | 45707.3631         | 9.659  | 0.592 | 0.879 | 0.804 |
| 45200.4609         | 13.079 |       | 2.050 |       | AO PUP             |        |       |       |       |
| 45201.4609         | 13.103 |       | 2.119 |       | 45676.5389         | 8.525  |       | 1.467 | 1.132 |
| 45205.4218         | 13.300 |       | 2.250 |       | 45687.4843         | 9.138  |       | 1.909 |       |
| 45648.3554         | 13.288 |       |       | 1.929 | 45692.4101         | 9.205  |       | 1.642 | 1.292 |
| 45649.4296         | 13.323 |       | 2.293 | 1.979 | 45693.4139         | 9.205  | 1.419 | 1.655 | 1.301 |
| 45665.4413         | 13.724 |       | 2.382 | 1.957 | 45694.4218         | 9.220  | 1.368 | 1.592 | 1.283 |
| 45666.3437         | 13.360 |       | 2.147 | 1.851 | 45704.3905         | 8.357  |       | 1.344 | 1.069 |
| 45676.3437         | 13.387 |       | 2.336 | 2.000 | 45706.3631         | 8.511  | 1.216 | 1.402 | 1.189 |
| 45679.3320         | 13.529 |       | 2.312 | 2.047 | BN PUP             |        |       |       |       |
| 45691.2578         | 13.824 |       | 2.289 | 1.986 | 45666.5389         | 10.068 |       | 1.455 | 1.105 |
| 45692.2500         | 13.513 |       | 2.161 | 1.925 | 45692.4256         | 9.822  |       | 1.342 | 1.050 |
| 45693.2304         | 13.138 |       | 2.007 | 1.814 | 45693.4256         | 9.926  |       | 1.433 | 1.090 |
| 45694.2304         | 13.032 |       | 1.977 | 1.784 | 45694.4335         | 10.095 |       | 1.460 | 1.129 |
| 45695.2460         | 13.031 |       | 2.023 | 1.803 | 45704.3984         | 9.640  |       | 1.169 | 0.945 |
| 45704.2500         | 13.510 |       | 2.280 | 2.071 | 45705.3750         | 9.778  | 0.986 | 1.291 | 1.055 |
| 45705.1522         | 13.534 |       | 2.399 | 2.045 | 45706.3710         | 9.891  | 1.132 | 1.354 | 1.103 |
| 45706.1756         | 13.589 |       | 2.357 | 2.056 | CK PUP             |        |       |       |       |
| 45707.1718         | 13.650 |       | 2.378 | 2.092 | 45704.3514         | 12.905 |       | 1.288 | 1.084 |
| X PUP              |        |       |       |       | 45705.3359         | 13.187 |       | 1.325 | 1.238 |
| 45666.5000         | 8.843  | 1.377 | 1.562 | 1.163 | 45706.3320         | 13.116 |       | 1.383 | 1.260 |
| 45676.4921         | 8.821  | 0.850 | 1.272 | 1.020 | 45707.3437         | 13.426 |       | 1.466 | 1.357 |
| 45687.4453         | 8.482  |       | 1.398 |       | CM PUP             |        |       |       |       |
| 45691.4530         | 8.730  | 1.431 | 1.524 | 1.154 | 45694.3984         | 13.709 |       | 1.110 | 0.944 |
| 45692.3750         | 8.810  |       | 1.530 | 1.178 | 45704.3671         | 14.012 |       | 1.208 | 1.076 |
| 45693.3788         | 8.846  | 1.424 | 1.571 | 1.179 | 45705.3476         | 14.233 |       | 1.330 | 1.089 |
| 45694.3828         | 8.936  | 1.467 | 1.547 | 1.196 | 45706.3397         | 13.970 |       | 1.140 | 1.009 |
| 45704.3593         | 7.958  |       | 0.857 | 0.804 | 45707.3514         | 13.814 |       | 1.198 | 1.004 |
| 45705.3397         | 7.968  | 0.699 | 0.883 | 0.810 | HW PUP             |        |       |       |       |
| 45706.3359         | 8.022  | 0.712 | 0.963 | 0.865 | 45676.5272         | 11.844 |       | 1.212 | 1.057 |
| 45707.3476         | 8.067  | 0.771 | 1.038 | 0.886 | 45687.4764         | 11.971 |       | 1.268 | 1.195 |
| VZ PUP             |        |       |       |       | 45692.3945         | 12.026 |       | 1.358 | 1.154 |
| 45666.5078         |        |       | 1.059 | 0.882 | 45693.4022         | 12.112 |       | 1.458 | 1.202 |
| 45676.5038         | 10.031 | 1.187 | 1.493 | 1.118 | 45694.4139         | 12.282 |       | 1.457 | 1.227 |
| 45687.4530         | 9.038  |       | 0.883 | 0.877 | 45704.3828         | 11.895 |       | 1.299 | 1.103 |
| 45691.4609         | 9.351  | 0.942 | 1.184 | 0.955 | 45705.3671         | 12.022 |       | 1.339 | 1.175 |
| 45692.3828         | 9.445  |       | 1.211 | 1.008 | 45706.3593         | 12.101 | 0.961 | 1.417 | 1.218 |
| 45693.3867         | 9.489  | 1.000 | 1.292 | 1.036 | LS PUP             |        |       |       |       |
| 45694.4022         | 9.596  | 1.040 | 1.332 | 1.068 | 45666.5429         | 10.475 |       | 1.405 | 1.117 |

ПРОДОЛЖЕНИЕ ТАБЛИЦЫ 3

| JD HEL.<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL.<br>2400000+ | V      | U-B   | B-V   | V-R         |
|---------------------|--------|-------|-------|-------|---------------------|--------|-------|-------|-------------|
| -----               |        |       |       |       | -----               |        |       |       |             |
| -/-/-/-             |        |       |       |       |                     |        |       |       |             |
| LS PUP              |        |       |       |       | GX SGE              |        |       |       |             |
| 45676.5429          | 10.057 |       | 1.060 | 0.850 | 45203.3242          | 12.569 |       |       | 2.027       |
| 45692.4139          | 10.189 |       | 1.187 | 0.994 | 45204.2030          | 12.270 |       |       | 1.870       |
| 45693.4179          | 10.261 | 0.973 | 1.310 | 1.030 | 45205.2147          | 11.969 |       |       | 1.804       |
| 45693.4218          | 10.260 |       | 1.297 | 1.030 | 45207.2107          | 12.197 |       |       | 1.986       |
| 45694.4256          | 10.390 |       | 1.347 | 1.086 | 45648.1288          | 12.521 |       |       | 2.188 1.784 |
| 45704.3945          | 9.880  |       | 0.956 | 0.829 | 45649.1522          | 12.635 |       |       | 2.228 1.816 |
| 45705.3710          | 10.133 |       | 1.097 | 0.990 | 45650.1484          | 12.771 |       |       | 1.820       |
| 45706.3671          | 10.205 | 0.869 | 1.150 | 1.031 | 45665.1093          | 12.973 |       |       | 1.867       |
| GX SGE              |        |       |       |       | 45668.0937          | 12.571 |       |       | 2.230 1.752 |
| 44825.3514          | 12.906 |       | 2.269 |       | 45674.1131          | 12.474 |       |       | 2.173 1.852 |
| 44827.2421          | 12.848 |       | 2.209 |       | 45675.0897          | 12.670 |       |       | 2.244 1.888 |
| 44830.2343          | 12.150 |       | 1.784 |       | 45864.3359          | 12.119 | 1.208 | 1.884 | 1.675       |
| 44831.2381          | 12.003 |       | 1.812 |       | 45866.3750          | 12.364 |       |       | 2.133 1.760 |
| 44832.2421          | 12.131 |       | 1.850 |       | 45867.3514          | 12.490 |       |       | 2.146 1.798 |
| 44833.2304          | 12.251 |       | 1.984 |       | 45868.3046          | 12.666 |       |       | 2.150 1.849 |
| 44845.2070          | 12.124 |       | 1.904 |       | 45869.3397          | 12.788 |       |       | 2.240 1.883 |
| 44846.2343          | 12.234 |       | 2.007 |       | 45870.3125          | 12.889 |       |       | 1.869       |
| 44847.2109          | 12.373 |       | 2.082 |       | 45871.3125          | 12.942 |       |       | 1.866       |
| 44848.2030          | 12.508 |       | 2.151 |       | 45872.2889          | 12.828 |       |       | 2.194 1.845 |
| 44849.2343          | 12.634 |       | 2.254 |       | 45873.2851          | 12.625 |       |       | 2.106 1.768 |
| 44850.2304          | 12.780 |       | 2.264 |       | 45874.2772          | 12.571 |       |       | 2.078 1.745 |
| 44851.2264          | 12.907 |       | 2.300 |       | 45875.2695          | 12.018 |       |       | 1.769 1.580 |
| 44852.2187          | 12.968 |       | 2.258 |       | 45876.2734          | 12.004 |       |       | 1.837 1.623 |
| 44853.2226          | 12.846 |       | 2.168 |       | 45877.2889          | 12.103 |       |       | 1.929 1.668 |
| 44854.2187          | 12.609 |       | 2.058 |       | 45878.2655          | 12.231 |       |       | 2.017 1.714 |
| 44855.2070          | 12.569 |       | 1.996 |       | 45879.2734          | 12.375 |       |       | 2.076 1.786 |
| 44856.1992          | 11.998 |       | 1.726 |       | 45880.2812          | 12.502 |       |       | 2.158 1.834 |
| 44857.2030          | 12.013 |       | 1.820 |       | 45881.2617          | 12.657 |       |       | 2.186 1.870 |
| 44858.2695          | 12.139 |       | 1.939 |       | 45882.2655          | 12.779 |       |       | 2.252 1.862 |
| 44880.1992          | 12.584 |       | 2.054 |       | 45883.2734          | 12.882 |       |       | 2.281 1.867 |
| 44881.1875          | 12.523 |       | 2.013 |       | 45886.2655          | 12.616 |       |       | 2.074 1.781 |
| 44882.2304          | 11.875 |       | 1.708 |       | 45887.2617          | 12.552 |       |       | 1.981 1.717 |
| 44883.1639          | 12.031 |       | 1.833 |       | GY SGE              |        |       |       |             |
| 44884.1522          | 12.166 |       | 1.911 |       | 44825.3631          | 10.254 |       |       | 2.420       |
| 44885.1756          | 12.280 |       | 2.053 |       | 44827.2460          | 10.327 |       |       | 2.435       |
| 45173.3671          | 12.870 |       | 2.246 |       | 44829.2617          | 10.373 |       |       | 2.429       |
| 45175.3788          | 12.893 |       | 2.215 |       | 44830.2301          | 10.367 |       |       | 2.432       |
| 45176.3554          | 12.677 |       | 2.091 |       | 44831.2460          | 10.429 |       |       | 2.430       |
| 45178.3554          | 12.320 |       | 1.877 |       | 44832.2460          | 10.432 |       |       | 2.447       |
| 45179.2421          | 11.924 |       | 1.732 |       | 44833.2381          | 10.454 |       |       | 2.449       |
| 45180.2772          | 12.046 |       | 1.880 |       | 44835.3593          | 10.481 |       |       | 2.464       |
| 45181.2381          | 12.189 |       | 1.929 |       | 44841.2421          | 10.498 |       |       | 2.400       |
| 45184.2226          | 12.573 |       | 2.213 |       | 44844.2226          | 10.340 |       |       | 2.320       |
| 45186.2617          | 12.851 |       | 2.275 |       | 44846.2381          | 10.207 |       |       | 2.250       |
| 45187.2500          | 12.934 |       | 2.277 |       | 44847.2147          | 10.120 |       |       | 2.215       |
| 45188.2381          | 12.892 |       | 2.233 |       | 44848.2070          | 10.056 |       |       | 2.176       |
| 45190.2889          | 12.559 |       | 2.075 |       | 44849.2381          | 9.972  |       |       | 2.145       |
| 45191.2968          | 12.284 |       | 1.891 |       | 44850.2343          | 9.922  |       |       | 2.129       |
| 45192.3006          | 11.947 |       | 1.799 |       | 44851.2304          | 9.882  |       |       | 2.120       |
| 45193.2734          | 12.059 |       | 1.877 |       | 44852.2226          | 9.862  |       |       | 2.111       |
| 45194.2734          | 12.193 |       | 1.948 |       | 44853.2264          | 9.857  |       |       | 2.103       |
| 45198.2968          | 12.742 |       | 2.249 |       | 44854.2226          | 9.843  |       |       | 2.121       |
| 45201.2734          | 12.875 |       | 2.206 |       | 44855.2109          | 9.870  |       |       | 2.124       |

| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| BY SGE             |        |       |       |       | BY SGE             |        |       |       |       |
| 44856.2070         | 9.859  |       | 2.120 |       | 45515.3046         | 10.027 |       | 2.220 | 1.881 |
| 44857.2109         | 9.868  |       | 2.138 |       | 45644.2147         | 10.265 |       | 2.506 |       |
| 44858.2734         | 9.859  |       |       |       | 45646.1601         | 10.322 |       | 2.511 | 1.979 |
| 44859.2226         | 9.911  |       | 2.173 |       | 45648.1328         | 10.331 |       | 2.512 | 2.018 |
| 44880.2030         | 10.318 |       | 2.457 |       | 45649.1562         | 10.328 |       |       | 2.017 |
| 44881.1913         | 10.341 |       | 2.460 |       | 45659.1093         | 10.494 |       |       | 2.034 |
| 44882.2343         | 10.388 |       | 2.411 |       | 45665.1131         | 10.372 |       | 2.453 | 1.967 |
| 44883.1679         | 10.422 |       | 2.424 |       | 45666.0937         | 10.329 |       | 2.409 | 1.953 |
| 44884.1601         | 10.461 |       | 2.417 |       | 45668.1014         | 10.152 |       | 2.304 | 1.902 |
| 44885.1835         | 10.450 |       | 2.448 |       | 45674.1171         | 9.794  |       | 2.173 | 1.826 |
| 45173.3750         | 10.051 |       | 2.291 |       | 45675.0937         | 9.846  |       | 2.188 | 1.814 |
| 45175.3828         | 10.094 |       | 2.314 |       | 45676.0937         | 9.873  |       | 2.195 | 1.837 |
| 45178.3593         | 10.148 |       | 2.345 |       | 45679.1171         | 9.882  |       | 2.255 | 1.837 |
| 45179.2460         | 10.173 |       | 2.366 |       | 45683.1014         | 9.979  |       | 2.330 | 1.904 |
| 45181.2460         | 10.208 |       | 2.383 |       | 45686.0859         | 10.054 |       | 2.381 | 1.943 |
| 45182.2460         | 10.227 |       | 2.415 |       | 45690.0820         | 10.129 |       | 2.373 | 1.968 |
| 45183.2460         | 10.241 |       | 2.407 |       | 45864.3397         | 10.475 | 2.465 | 2.489 | 2.050 |
| 45184.2304         | 10.266 |       | 2.424 |       | 45866.3788         | 10.475 | 2.270 | 2.430 | 2.035 |
| 45186.2734         | 10.301 |       | 2.452 |       | 45867.3554         | 10.475 | 2.480 | 2.445 | 2.035 |
| 45187.2538         | 10.332 |       | 2.436 |       | 45868.3085         | 10.477 | 2.345 | 2.437 | 2.013 |
| 45188.2460         | 10.350 |       | 2.450 |       | 45869.3437         | 10.449 | 2.406 | 2.380 | 2.028 |
| 45189.2851         | 10.371 |       | 2.443 |       | 45870.3163         | 10.408 | 2.124 | 2.378 | 2.010 |
| 45190.2968         | 10.384 |       | 2.458 |       | 45871.3125         | 10.353 |       | 2.352 | 1.986 |
| 45191.3006         | 10.421 |       | 2.469 |       | 45872.2968         | 10.302 | 2.143 | 2.304 | 1.961 |
| 45192.3046         | 10.415 |       | 2.464 |       | 45873.2889         | 10.228 | 1.961 | 2.297 | 1.936 |
| 45193.2772         | 10.459 |       | 2.431 |       | 45874.2812         | 10.144 | 1.916 | 2.258 | 1.915 |
| 45194.2772         | 10.459 |       | 2.448 |       | 45875.2734         | 10.071 | 1.890 | 2.184 | 1.891 |
| 45198.3006         | 10.477 |       | 2.444 |       | 45876.2772         | 9.985  | 1.837 | 2.170 | 1.847 |
| 45199.2655         | 10.469 |       | 2.415 |       | 45877.2929         | 9.948  | 1.823 | 2.131 | 1.856 |
| 45200.2812         | 10.431 |       | 2.396 |       | 45878.2695         | 9.897  | 1.795 | 2.105 | 1.844 |
| 45201.2772         | 10.406 |       | 2.372 |       | 45879.2734         | 9.879  | 1.763 | 2.090 | 1.827 |
| 45203.2187         | 10.312 |       | 2.315 |       | 45880.2851         | 9.855  |       | 2.114 | 1.838 |
| 45204.2109         | 10.245 |       | 2.273 |       | 45881.2617         | 9.877  |       | 2.084 | 1.852 |
| 45205.2187         | 10.164 |       | 2.224 |       | 45882.2695         | 9.845  | 1.818 | 2.114 | 1.831 |
| 45207.2109         | 10.016 |       | 2.154 |       | 45883.2772         | 9.839  | 1.847 | 2.113 | 1.828 |
| 45208.2421         | 9.959  |       | 2.129 |       | 45886.2695         | 9.899  | 1.844 | 2.156 | 1.876 |
| 45209.1953         | 9.911  |       | 2.118 |       | 45887.2695         | 9.884  | 1.891 | 2.166 | 1.855 |
| 45210.2030         | 9.889  |       | 2.114 |       | U SUR              |        |       |       |       |
| 45211.1835         | 9.868  |       | 2.110 |       | 45488.4375         | 7.080  | 0.962 | 1.281 | 1.066 |
| 45212.2109         | 9.882  |       | 2.107 |       | 45490.3905         | 6.339  | 0.584 | 0.899 | 0.860 |
| 45213.1953         | 9.868  |       | 2.123 |       | 45496.3984         | 6.663  | 0.660 | 1.067 | 0.930 |
| 45214.1953         | 9.889  |       | 2.130 |       | 45497.3514         | 6.362  | 0.601 | 0.930 | 0.839 |
| 45489.3203         | 10.199 | 2.497 | 2.445 | 2.001 | 45498.3945         | 6.541  | 0.694 | 1.020 | 0.946 |
| 45497.2538         | 10.402 |       | 2.525 | 2.039 | 45501.3905         | 7.054  | 0.987 | 1.297 | 1.023 |
| 45498.2695         | 10.407 |       | 2.488 | 2.045 | 45502.3984         | 7.049  | 0.899 | 1.200 | 1.066 |
| 45501.3163         | 10.452 |       | 2.522 | 2.049 | 45503.3867         | 6.538  | 0.614 | 1.001 | 0.888 |
| 45503.3085         | 10.496 |       |       | 2.039 | 45505.3514         | 6.604  | 0.748 | 1.113 | 0.941 |
| 45505.2968         | 10.506 |       |       | 2.020 | 45514.3584         | 6.941  | 0.943 | 1.253 | 1.066 |
| 45508.2851         | 10.491 |       | 2.465 | 2.017 | 45515.3163         | 7.020  | 0.997 | 1.202 | 1.046 |
| 45509.3085         | 10.452 |       | 2.466 | 2.001 | 45872.3280         | 7.622  | 1.008 | 1.290 | 1.050 |
| 45512.3125         | 10.295 |       | 2.282 | 1.942 | 45873.3320         | 7.027  | 0.948 | 1.234 | 1.034 |
| 45513.3397         | 10.208 |       | 2.296 | 1.930 | 45874.3204         | 6.596  |       | 0.990 | 0.916 |
| 45514.3125         | 10.129 |       | 2.260 | 1.894 | 45875.3125         | 6.412  |       |       | 0.886 |



| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| U SGR              |        |       |       |       | V1828SGR           |        |       |       |       |
| 45076.3242         | 6.620  | 0.773 | 1.088 | 0.964 | 45207.1679         | 12.746 |       | 0.830 |       |
| 45077.3203         | 6.695  | 0.836 | 1.157 | 1.001 | 45870.3476         | 13.026 |       | 1.023 | 0.980 |
| 45078.3085         | 6.902  | 0.944 | 1.268 | 1.022 | 45871.3242         | 13.146 |       | 1.170 | 0.953 |
| 45379.3046         | 7.078  |       | 1.297 | 1.050 | 45873.3203         | 13.350 |       | 1.237 | 1.040 |
| 45880.3125         | 6.944  | 0.831 | 1.193 | 1.027 | 45874.3085         | 13.444 |       | 1.237 | 1.038 |
| 45881.3085         | 6.405  |       | 0.930 | 0.911 | 45875.3046         | 13.538 |       | 1.283 | 1.057 |
| 45882.3006         | 6.450  | 0.680 | 1.002 | 0.892 | 45876.3125         | 13.611 |       | 1.267 | 1.044 |
| 45883.3125         | 6.659  | 0.801 | 1.115 | 0.967 | 45877.3006         | 13.730 |       | 1.112 | 1.150 |
| 45886.3163         | 7.094  | 1.021 | 1.281 | 1.064 | 45878.2851         | 13.681 |       | 1.029 | 1.083 |
| 45887.2968         | 6.797  | 0.751 | 1.134 | 0.960 | 45879.2968         | 13.367 |       | 1.007 | 0.890 |
| WZ SGR             |        |       |       |       | 45880.3046         | 12.840 |       | 0.937 | 0.807 |
| 45488.4453         | 8.352  | 1.475 | 1.531 | 1.216 | 45881.3006         | 12.796 |       | 0.869 | 0.884 |
| 45494.4062         | 7.801  | 1.152 | 1.407 | 1.133 | 45883.3046         | 12.997 |       | 1.029 | 0.951 |
| 45497.3593         | 7.900  | 1.212 | 1.462 | 1.147 | 45886.2929         | 13.344 |       | 1.230 | 1.066 |
| 45498.3984         | 7.952  | 1.305 | 1.475 | 1.185 | 45887.2889         | 13.395 |       | 1.210 | 1.108 |
| 45501.3984         | 8.270  | 1.547 | 1.648 | 1.220 | Y SGT              |        |       |       |       |
| 45502.4022         | 8.314  | 1.623 | 1.636 | 1.292 | 45488.3710         | 9.697  |       | 1.762 | 1.407 |
| 45503.3905         | 8.378  | 1.655 | 1.717 | 1.262 | 45489.4101         | 9.944  |       | 1.839 | 1.488 |
| 45505.3554         | 8.529  | 1.876 | 1.726 | 1.281 | 45493.4062         | 9.654  | 1.267 | 1.504 | 1.340 |
| 45515.3203         | 7.486  | 0.884 | 1.160 | 0.992 | 45496.3397         | 9.375  | 1.090 | 1.549 | 1.318 |
| 45872.3242         | 8.154  | 1.600 | 1.626 | 1.231 | 45497.3125         | 9.513  | 1.366 | 1.645 | 1.371 |
| 45873.3280         | 8.237  | 1.710 | 1.634 | 1.251 | 45498.3554         | 9.645  | 1.466 | 1.690 | 1.418 |
| 45874.3163         | 8.314  | 1.766 | 1.709 | 1.252 | 45502.3437         | 9.884  | 1.391 | 1.696 | 1.407 |
| 45875.3085         | 8.410  | 1.813 | 1.697 | 1.248 | 45503.3514         | 9.758  | 1.323 | 1.652 | 1.394 |
| 45876.3203         | 8.488  | 1.844 | 1.734 | 1.302 | 45505.3671         | 9.325  | 1.062 | 1.437 | 1.259 |
| 45877.3163         | 8.546  | 1.879 | 1.704 | 1.305 | 45508.3476         | 9.600  |       | 1.737 | 1.410 |
| 45878.3085         | 8.542  | 1.814 | 1.712 | 1.265 | 45515.3593         | 9.446  |       | 1.500 | 1.288 |
| 45879.3006         | 0.525  | 1.687 | 1.665 | 1.262 | 45872.3397         | 9.893  | 1.502 | 1.791 | 1.445 |
| 45880.3085         | 0.418  | 1.497 | 1.603 | 1.255 | 45873.3397         | 9.280  | 1.457 | 1.791 | 1.461 |
| 45881.3046         | 8.425  | 1.355 | 1.568 | 1.290 | 45874.3280         | 9.942  |       | 1.732 | 1.433 |
| 45882.2968         | 8.353  | 1.318 | 1.524 | 1.195 | 45875.3163         | 9.72   |       | 1.613 | 1.351 |
| 45883.3085         | 8.111  | 1.113 | 1.378 | 1.110 | 45876.3320         | 9.596  | 1.145 | 1.517 | 1.315 |
| 45886.2968         | 7.576  | 0.911 | 1.155 | 0.984 | 45877.3242         | 9.547  | 1.123 | 1.426 | 1.297 |
| 45887.2929         | 7.572  | 0.969 | 1.225 | 1.013 | 45878.3163         | 9.213  | 1.006 | 1.417 | 1.234 |
| V1828SGR           |        |       |       |       | 45879.3125         | 9.386  | 1.179 | 1.347 | 1.295 |
| 45174.2343         | 13.564 |       | 1.251 |       | 45880.3203         | 9.424  | 1.326 | 1.620 | 1.352 |
| 45175.2381         | 13.521 |       | 1.328 |       | 45881.3125         | 9.216  | 1.819 | 1.697 | 1.645 |
| 45176.2301         | 13.608 |       | 1.253 |       | 45882.3046         | 9.093  |       | 1.781 | 1.440 |
| 45189.2226         | 13.576 |       | 1.268 |       | 45883.3163         | 10.038 |       | 1.788 | 1.500 |
| 45190.1913         | 13.645 |       | 1.100 |       | 45884.3203         | 9.437  | 1.171 | 1.550 | 1.730 |
| 45191.1875         | 13.473 |       | 1.081 |       | 45887.3006         | 9.447  | 1.131 | 1.503 | 1.276 |
| 45192.1875         | 13.347 |       | 1.034 |       | Z SGT              |        |       |       |       |
| 45193.1796         | 12.885 |       | 0.887 |       | 45488.3862         | 10.621 | 1.323 | 1.473 | 1.171 |
| 45194.1796         | 12.726 |       | 0.900 |       | 45489.4177         | 9.752  | 1.407 | 1.542 | 1.252 |
| 45195.1835         | 12.826 |       | 0.888 |       | 45490.3476         | 9.836  | 1.616 | 1.612 | 1.255 |
| 45196.1796         | 12.962 |       | 1.007 |       | 45493.3945         | 10.024 |       |       | 1.251 |
| 45198.1796         | 13.215 |       | 1.223 |       | 45496.3320         | 9.536  | 0.950 | 1.290 | 1.112 |
| 45199.1835         | 13.409 |       | 1.198 |       | 45497.3085         | 9.073  | 0.824 | 1.085 | 0.984 |
| 45200.1796         | 13.503 |       | 1.184 |       | 45498.3476         | 9.211  | 0.851 | 1.193 | 1.064 |
| 45201.1796         | 13.568 |       | 1.263 |       | 45501.3593         | 9.581  |       | 1.462 | 1.182 |
| 45203.1718         | 13.610 |       | 1.143 |       | 45502.3514         | 9.690  | 1.393 | 1.535 | 1.195 |
| 45204.1601         | 13.532 |       | 1.110 |       | 45503.3593         | 9.864  | 1.404 | 1.614 | 1.256 |
| 45205.1718         | 13.321 |       | 0.928 |       | 45505.3710         | 10.043 | 1.449 | 1.605 | 1.245 |

| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| Z SCT              |        |       |       |       | TY SCT             |        |       |       |       |
| 45508.3593         | 9.673  | 0.999 | 1.359 | 1.126 | 45502.3593         | 10.556 |       | 1.671 | 1.456 |
| 45515.3631         | 9.666  |       | 1.534 | 1.196 | 45503.3437         | 10.673 |       | 1.769 | 1.506 |
| 45872.3437         | 9.206  | 0.890 | 1.200 | 1.023 | 45505.3359         | 11.011 |       | 1.914 | 1.608 |
| 45873.3437         | 9.288  | 1.002 | 1.262 | 1.080 | 45508.3397         | 11.195 |       | 1.905 | 1.601 |
| 45874.3280         | 9.424  | 1.122 | 1.374 | 1.121 | 45515.3554         | 10.790 |       | 1.825 | 1.562 |
| 45875.3203         | 9.551  |       | 1.447 | 1.172 | 45871.3359         | 11.153 |       | 1.940 | 1.630 |
| 45876.3359         | 9.688  | 1.346 | 1.522 | 1.200 | 45872.3514         | 11.203 |       | 1.959 | 1.618 |
| 45877.3242         | 9.837  | 1.453 | 1.570 | 1.239 | 45873.3514         | 11.140 |       | 1.885 | 1.604 |
| 45878.3163         | 9.962  | 1.557 | 1.608 | 1.244 | 45874.3359         | 10.977 |       | 1.803 | 1.526 |
| 45879.3125         | 10.047 |       | 1.619 | 1.245 | 45875.3242         | 10.754 |       | 1.667 | 1.472 |
| 45880.3203         | 9.993  | 1.391 | 1.551 | 1.249 | 45876.3397         | 10.575 |       | 1.599 | 1.438 |
| 45881.3163         | 9.825  | 1.225 | 1.422 | 1.214 | 45877.3320         | 10.305 |       | 1.512 | 1.368 |
| 45882.3046         | 9.685  | 1.039 | 1.361 | 1.128 | 45878.3280         | 10.570 |       | 1.674 | 1.456 |
| 45883.3163         | 9.574  |       | 1.295 | 1.075 | 45879.3203         | 10.698 |       | 1.759 | 1.502 |
| 45886.3242         | 9.311  | 0.993 | 1.278 | 1.071 | 45880.3280         | 10.823 |       | 1.844 | 1.562 |
| 45887.3046         | 9.407  | 1.108 | 1.374 | 1.115 | 45881.3242         | 11.032 | 1.822 | 1.874 | 1.618 |
| RU SCT             |        |       |       |       | 45882.3125         | 11.152 |       | 1.963 | 1.612 |
| 45488.3437         | 9.724  | 1.593 | 1.970 | 1.647 | 45883.3242         | 11.243 |       | 1.960 | 1.620 |
| 45489.4022         | 9.798  |       | 1.981 | 1.640 | 45886.3280         | 10.776 | 1.444 | 1.683 | 1.477 |
| 45490.3320         | 9.875  | 1.822 | 2.020 | 1.640 | 45887.3085         | 10.565 | 1.247 | 1.626 | 1.407 |
| 45493.3867         | 9.886  | 1.571 | 1.908 | 1.616 | UZ SCT             |        |       |       |       |
| 45496.3163         | 9.787  | 1.363 | 1.807 | 1.562 | 45493.4256         | 11.340 |       | 1.898 | 1.602 |
| 45497.2968         | 9.388  | 1.067 | 1.618 | 1.440 | 45496.3631         | 10.764 |       | 1.670 | 1.505 |
| 45498.3397         | 8.829  | 1.021 | 1.398 | 1.291 | 45497.3280         | 10.850 |       | 1.769 | 1.507 |
| 45501.3476         | 9.162  | 1.140 | 1.594 | 1.439 | 45498.3710         | 11.029 |       | 1.823 | 1.579 |
| 45502.3554         | 9.211  | 1.262 | 1.682 | 1.452 | 45501.3828         | 11.288 |       | 2.007 | 1.615 |
| 45503.3476         | 9.296  | 1.323 | 1.735 | 1.503 | 45502.3750         | 11.429 |       | 2.078 | 1.680 |
| 45505.3320         | 9.477  | 1.476 | 1.855 | 1.569 | 45503.3710         | 11.536 |       | 2.057 | 1.672 |
| 45508.3359         | 9.768  | 1.751 | 1.982 | 1.620 | 45505.3867         | 11.641 |       | 2.089 | 1.725 |
| 45515.3476         | 9.798  | 1.591 | 1.840 | 1.583 | 45508.3750         | 11.397 |       |       | 1.673 |
| 45871.3397         | 9.560  | 1.367 | 1.686 | 1.482 | 45515.3867         | 11.193 |       | 1.993 | 1.629 |
| 45872.3514         | 8.894  | 1.137 | 1.409 | 1.283 | CN SCT             |        |       |       |       |
| 45873.3514         | 8.877  | 1.164 | 1.435 | 1.291 | 44840.2147         | 12.530 |       | 2.168 |       |
| 45874.3359         | 9.022  | 1.220 | 1.521 | 1.354 | 44841.1953         | 12.648 |       | 2.222 |       |
| 45875.3242         | 9.097  | 1.289 | 1.566 | 1.397 | 44844.1718         | 12.733 |       | 2.142 |       |
| 45876.3437         | 9.180  | 1.300 | 1.654 | 1.440 | 44845.1679         | 12.477 |       | 2.063 |       |
| 45877.3359         | 9.262  | 1.418 | 1.703 | 1.495 | 44846.1953         | 12.286 |       | 2.032 |       |
| 45878.3280         | 9.347  | 1.538 | 1.783 | 1.513 | 44847.1679         | 12.195 |       | 2.004 |       |
| 45879.3203         | 9.442  | 1.653 | 1.814 | 1.549 | 44848.1679         | 12.162 |       | 1.994 |       |
| 45880.3280         | 9.503  | 1.690 | 1.876 | 1.584 | 44849.1718         | 12.376 |       | 2.092 |       |
| 45881.3242         | 9.638  | 1.882 | 1.895 | 1.634 | 44850.1756         | 12.494 |       | 2.163 |       |
| 45882.3125         | 9.721  | 1.791 | 1.947 | 1.634 | 44851.1679         | 12.640 |       | 2.218 |       |
| 45883.3242         | 9.822  | 1.981 | 1.985 | 1.647 | 44852.1679         | 12.760 |       | 2.230 |       |
| 45886.3320         | 9.934  | 1.851 | 1.945 | 1.646 | 44853.1718         | 12.816 |       | 2.246 |       |
| 45887.3125         | 9.879  | 1.708 | 1.899 | 1.611 | 44854.1756         | 12.711 |       | 2.187 |       |
| TY SCT             |        |       |       |       | 44880.1601         | 12.489 |       | 2.181 |       |
| 45489.3945         | 10.573 |       | 1.650 | 1.421 | 44881.1445         | 12.635 |       | 2.254 |       |
| 45490.3203         | 10.280 |       | 1.531 | 1.344 | 45173.2929         | 12.798 |       | 2.168 |       |
| 45493.3828         | 10.857 |       | 1.816 | 1.529 | 45174.3046         | 12.629 |       | 2.190 |       |
| 45496.3242         | 11.201 |       | 1.948 | 1.643 | 45175.3280         | 12.417 |       | 2.040 |       |
| 45497.3046         | 11.186 |       | 1.966 | 1.629 | 45176.3046         | 12.271 |       | 2.049 |       |
| 45498.3437         | 11.045 |       | 1.830 | 1.586 | 45180.2309         | 12.542 |       | 2.159 |       |
| 45501.3554         | 10.312 |       | 1.505 | 1.345 | 45190.2460         | 12.530 |       | 2.199 |       |

| JD HEL     | V      | U-B | B-V   | V-R   | JD HEL     | V      | U-B | B-V   | V-R  |
|------------|--------|-----|-------|-------|------------|--------|-----|-------|------|
| 2400000+   |        |     |       |       | 2400000+   |        |     |       |      |
| CN SCT     |        |     |       |       | AA SER     |        |     |       |      |
| 45191.2343 | 12.699 |     | 2.228 |       | 44829.2070 | 11.989 |     | 2.267 |      |
| 45192.2381 | 12.797 |     | 2.235 |       | 44831.2109 | 12.236 |     | 2.459 |      |
| 45193.2187 | 12.780 |     | 2.216 |       | 44832.2030 | 12.287 |     | 2.440 |      |
| 45194.2187 | 12.674 |     | 2.159 |       | 44833.1875 | 12.411 |     | 2.438 |      |
| 45195.2381 | 12.404 |     | 2.019 |       | 44836.2734 | 12.673 |     | 2.487 |      |
| 45196.2734 | 12.301 |     | 1.981 |       | 44840.2301 | 12.463 |     | 2.401 |      |
| 45198.2301 | 12.236 |     | 2.043 |       | 44841.2147 | 12.371 |     | 2.284 |      |
| 45199.2381 | 12.422 |     | 2.127 |       | 44844.1875 | 11.787 |     | 2.162 |      |
| 45201.2381 | 12.691 |     | 2.223 |       | 44845.1835 | 11.806 |     | 2.169 |      |
| 45871.3320 | 12.753 |     | 2.295 | 2.015 | 44846.2109 | 11.991 |     | 2.249 |      |
| 45872.3476 | 12.794 |     | 2.301 | 2.022 | 44847.1835 | 12.085 |     | 2.311 |      |
| 45873.3476 | 12.725 |     | 2.181 | 2.025 | 44848.1835 | 12.174 |     | 2.388 |      |
| 45874.3320 | 12.541 |     | 2.040 | 1.974 | 44849.2070 | 12.290 |     | 2.430 |      |
| 45875.3203 | 12.310 |     | 2.005 | 1.876 | 44850.1913 | 12.359 |     | 2.479 |      |
| 45876.3397 | 12.202 |     | 1.998 | 1.869 | 44851.1835 | 12.458 |     | 2.469 |      |
| 45877.3320 | 12.186 |     | 2.010 | 1.895 | 44852.1875 | 12.562 |     | 2.456 |      |
| 45878.3242 | 12.363 |     | 2.133 | 1.927 | 44853.1953 | 12.622 |     | 2.517 |      |
| 45879.3163 | 12.509 |     | 2.160 | 1.961 | 44854.2030 | 12.666 |     | 2.431 |      |
| 45880.3242 | 12.606 |     | 2.232 | 2.024 | 44855.1484 | 12.632 |     | 2.436 |      |
| 45881.3203 | 12.813 |     | 2.223 | 2.091 | 44856.1562 | 12.518 |     | 2.390 |      |
| 45882.3085 | 12.822 |     | 2.217 | 2.059 | 44858.2538 | 12.402 |     | 2.300 |      |
| 45883.3203 | 12.761 |     | 2.180 | 2.013 | 44880.1718 | 11.965 |     | 2.251 |      |
| 45886.3242 | 12.204 |     | 1.990 | 1.862 | 44881.1601 | 12.107 |     | 2.304 |      |
| 45887.3046 | 12.138 |     | 2.005 | 1.867 | 45173.3203 | 12.083 |     | 2.306 |      |
| V367 SCT   |        |     |       |       | 45175.3437 | 12.325 |     | 2.444 |      |
| 45489.4335 | 11.756 |     | 1.896 | 1.764 | 45178.3203 | 12.568 |     | 2.517 |      |
| 45490.3710 | 11.603 |     | 1.823 | 1.679 | 45179.2264 | 12.620 |     | 2.509 |      |
| 45493.4101 | 11.502 |     | 1.844 | 1.692 | 45180.2421 | 12.643 |     | 2.484 |      |
| 45496.3514 | 11.889 |     | 2.029 | 1.805 | 45181.2147 | 12.593 |     | 2.463 |      |
| 45497.3203 | 11.604 |     | 1.846 | 1.708 | 45182.2187 | 12.473 |     | 2.416 |      |
| 45498.3631 | 11.252 |     | 1.721 | 1.601 | 45186.2460 | 11.764 |     | 2.114 |      |
| 45501.3750 | 11.841 |     | 1.932 | 1.771 | 45187.2187 | 11.813 |     | 2.124 |      |
| 45502.3631 | 11.721 |     | 1.882 | 1.718 | 45188.2147 | 11.938 |     | 2.192 |      |
| 45503.3631 | 11.495 |     | 1.749 | 1.703 | 45189.2734 | 12.011 |     | 2.269 |      |
| 45505.3788 | 11.547 |     | 1.875 | 1.679 | 45190.2655 | 12.092 |     | 2.328 |      |
| 45508.3631 | 11.738 |     | 2.109 | 1.767 | 45191.2578 | 12.193 |     | 2.337 |      |
| 45515.3710 | 11.662 |     | 2.046 | 1.739 | 45192.2612 | 12.312 |     | 2.438 |      |
| 45872.3359 | 11.670 |     | 1.899 | 1.746 | 45193.2421 | 12.378 |     | 2.448 |      |
| 45873.3359 | 11.822 |     | 1.951 | 1.786 | 45194.2381 | 12.495 |     | 2.468 |      |
| 45874.3242 | 11.735 |     | 1.855 | 1.736 | 45195.2578 | 12.584 |     | 2.491 |      |
| 45875.3163 | 11.325 |     | 1.691 | 1.619 | 45198.2578 | 12.620 |     | 2.441 |      |
| 45876.3280 | 11.394 |     | 1.755 | 1.666 | 45200.2695 | 12.405 |     | 2.416 |      |
| 45877.3203 | 11.624 |     | 1.866 | 1.743 | 45201.2612 | 12.373 |     | 2.407 |      |
| 45878.3125 | 11.796 |     | 1.898 | 1.779 | 45666.1210 | 12.571 |     | 2.479 | 2.54 |
| 45879.3085 | 11.238 |     | 1.900 | 1.731 | 45668.1014 | 11.880 |     | 2.474 | 2.50 |
| 45880.3163 | 11.614 |     | 1.787 | 1.71  | 45669.1131 | 11.829 |     | 2.462 | 2.50 |
| 45881.3085 | 11.758 |     | 1.795 | 1.715 | 45669.0897 | 11.950 |     | 2.457 | 2.50 |
| 45882.3085 | 11.521 |     | 1.901 | 1.691 | 45669.1671 | 12.601 |     | 2.488 | 2.50 |
| 45886.3163 | 11.813 |     | 1.919 | 1.768 | 45669.1807 | 12.614 |     | 2.491 | 2.50 |
| 45887.2268 | 11.620 |     | 1.818 | 1.687 | 45669.1671 | 12.560 |     | 2.456 | 2.50 |
| AA SER     |        |     |       |       | 45860.1671 | 12.434 |     | 2.488 | 2.50 |
| 44825.3085 | 11.950 |     | 2.144 |       | 45869.1671 | 12.329 |     | 2.479 | 2.50 |
| 44827.1200 | 11.791 |     |       |       | 45870.1671 | 12.199 |     | 2.479 | 2.50 |

## ПРОДОЛЖЕНИЕ ТАБЛИЦЫ 3

| JD HEL<br>2400000+ | V      | U-R   | B-V   | V-R   | JD HEL<br>2400000+ | V     | U-R   | B-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|-------|-------|-------|-------|
| AA SER             |        |       |       |       | S VIII             |       |       |       |       |
| 45871.3437         | 11.815 |       | 2.107 | 1.835 | 45870.2889         | 8.775 | 1.565 | 1.821 | 1.465 |
| 45872.3554         | 11.758 |       | 2.112 | 1.834 | 45871.2578         | 8.785 | 1.599 | 1.825 | 1.470 |
| 45873.3554         | 11.859 |       | 2.161 | 1.894 | 45872.2772         | 8.800 | 1.619 | 1.841 | 1.488 |
| 45874.3397         | 11.981 |       | 2.225 | 1.934 | 45873.2695         | 8.811 | 1.624 | 1.860 | 1.493 |
| 45875.3280         | 12.046 |       | 2.313 | 1.957 | 45874.2655         | 8.818 | 1.630 | 1.875 | 1.493 |
| 45876.3437         | 12.145 |       | 2.367 | 1.978 | 45875.2578         | 8.816 | 1.679 | 1.880 | 1.484 |
| 45877.3359         | 12.270 |       | 2.421 | 2.045 | 45876.2578         | 8.832 | 1.678 | 1.889 | 1.499 |
| 45878.3320         | 12.332 |       | 2.430 | 2.035 | 45877.2812         | 8.877 | 1.706 | 1.883 | 1.538 |
| 45879.3242         | 12.440 |       | 2.488 | 2.070 | 45878.2538         | 8.875 | 1.737 | 1.903 | 1.524 |
| 45880.3320         | 12.481 |       | 2.491 | 2.060 | 45879.2617         | 8.890 | 1.742 | 1.924 | 1.530 |
| 45881.3280         | 12.575 |       | 2.427 | 2.059 | 45880.2695         | 8.890 | 1.747 | 1.934 | 1.539 |
| 45882.3163         | 12.653 |       | 2.488 | 2.080 | 45881.2500         | 8.935 | 1.816 | 1.921 | 1.552 |
| 45883.3280         | 12.653 |       | 2.511 | 2.054 | 45882.2578         | 8.932 | 1.839 | 1.951 | 1.541 |
| 45886.3320         | 12.417 |       | 2.291 | 2.004 | 45883.2617         | 8.921 | 1.804 | 1.952 | 1.545 |
| 45887.3163         | 12.214 |       | 2.307 | 1.887 | 45886.2578         | 8.969 | 1.876 | 1.981 | 1.555 |
|                    |        |       |       |       | 45887.2500         | 8.977 | 1.984 | 1.986 | 1.556 |
| S VII              |        |       |       |       | SV VIII            |       |       |       |       |
| 45489.3006         | 9.270  | 1.863 | 2.099 | 1.615 | 45489.3085         | 7.240 | 1.383 | 1.635 | 1.231 |
| 45493.2617         | 9.321  | 1.857 | 2.140 | 1.612 | 45493.2734         | 7.354 |       | 1.698 | 1.244 |
| 45496.4296         | 9.298  | 1.837 | 2.085 | 1.604 | 45496.4375         | 7.454 | 1.555 | 1.733 | 1.273 |
| 45498.4530         | 9.244  | 1.751 | 2.020 | 1.579 | 45498.4570         | 7.494 | 1.595 | 1.729 | 1.269 |
| 45501.4413         | 9.177  | 1.584 | 1.974 | 1.562 | 45501.4453         | 7.602 | 1.607 | 1.759 | 1.290 |
| 45502.4570         | 9.109  | 1.590 | 1.931 | 1.539 | 45502.4609         | 7.640 | 1.623 | 1.743 | 1.290 |
| 45503.4570         | 9.052  | 1.581 | 1.894 | 1.516 | 45505.4609         | 7.705 | 1.570 | 1.746 | 1.297 |
| 45505.4570         | 8.931  | 1.524 | 1.825 | 1.488 | 45508.4609         | 7.760 | 1.482 | 1.746 | 1.274 |
| 45508.4570         | 8.817  | 1.365 | 1.778 | 1.429 | 45509.4492         |       | 1.449 | 1.685 | 1.269 |
| 45512.4530         | 8.741  |       | 1.720 | 1.417 | 45512.4570         | 7.416 | 1.120 | 1.485 | 1.165 |
| 45513.4453         | 8.719  | 1.388 | 1.699 | 1.400 | 45513.4492         | 7.183 | 1.008 | 1.357 | 1.089 |
| 45514.4453         | 8.727  | 1.301 | 1.714 | 1.403 | 45514.4492         | 6.950 | 0.914 | 1.236 | 1.011 |
| 45644.2187         | 8.908  |       | 1.825 |       | 45644.2226         | 7.743 | 1.570 | 1.694 |       |
| 45646.1835         |        |       |       | 1.412 | 45646.1875         | 7.737 | 1.391 | 1.648 | 1.210 |
| 45648.1484         | 8.778  | 1.426 | 1.733 | 1.424 | 45648.1522         | 7.450 | 1.172 | 1.415 | 1.115 |
| 45649.1756         | 8.725  | 1.337 | 1.731 | 1.426 | 45649.1796         | 7.081 | 0.954 | 1.298 | 1.070 |
| 45658.1131         | 8.751  | 1.426 | 1.774 | 1.440 | 45650.1875         | 6.797 | 0.942 | 1.231 | 0.910 |
| 45659.1131         | 8.747  | 1.444 | 1.806 | 1.443 | 45658.1171         | 6.817 | 1.040 | 1.302 | 1.048 |
| 45663.1131         | 8.781  | 1.494 | 1.856 | 1.500 | 45659.1131         | 6.875 | 1.066 | 1.346 | 1.068 |
| 45665.1288         | 8.796  | 1.462 | 1.885 | 1.470 | 45663.1171         | 7.017 | 1.156 | 1.489 | 1.185 |
| 45666.1014         | 8.814  | 1.525 | 1.898 | 1.489 | 45665.1367         | 7.067 | 1.267 | 1.550 | 1.160 |
| 45667.1288         |        | 1.568 | 1.891 | 1.460 | 45666.1014         | 7.106 | 1.288 | 1.580 | 1.189 |
| 45668.1171         | 8.828  | 1.546 | 1.937 | 1.491 | 45667.1367         | 7.164 | 1.309 | 1.607 | 1.186 |
| 45674.1250         | 8.860  | 1.657 | 1.990 | 1.537 | 45668.1250         | 7.168 | 1.369 | 1.619 | 1.199 |
| 45675.1131         | 8.924  | 1.640 | 2.017 | 1.559 | 45674.1288         | 7.313 | 1.520 | 1.708 | 1.266 |
| 45676.0976         | 8.949  | 1.601 | 2.026 | 1.548 | 45675.1250         | 7.405 | 1.563 |       | 1.267 |
| 45679.1250         | 8.985  | 1.764 | 2.063 | 1.558 | 45676.1054         | 7.426 | 1.517 | 1.738 | 1.274 |
| 45680.1054         | 9.057  | 1.740 | 2.081 | 1.591 | 45679.1288         | 7.503 | 1.586 | 1.766 | 1.276 |
| 45686.0877         | 9.110  |       | 2.109 | 1.597 | 45683.1131         | 7.653 | 1.586 | 1.785 | 1.301 |
| 45688.1131         | 9.156  |       |       | 1.623 | 45686.0976         | 7.742 | 1.584 | 1.773 | 1.297 |
| 45694.0742         | 9.230  |       | 2.071 | 1.616 | 45688.1171         | 7.775 | 1.437 | 1.786 | 1.302 |
| 45695.0703         | 9.251  |       | 2.078 | 1.639 | 45694.0780         | 7.134 | 1.047 | 1.332 | 1.076 |
| 45864.3046         | 8.720  | 1.455 | 1.748 | 1.424 | 45695.0742         | 6.918 | 0.938 | 1.215 | 1.018 |
| 45866.3476         | 8.740  | 1.490 | 1.779 | 1.433 | 45864.3125         | 7.700 | 1.659 | 1.757 | 1.799 |
| 45867.3203         | 8.743  | 1.510 | 1.790 | 1.445 | 45866.3514         | 7.759 | 1.656 | 1.752 | 1.291 |
| 45868.2500         | 8.770  | 1.512 | 1.804 | 1.459 | 45867.3203         | 7.763 | 1.633 | 1.738 | 1.294 |
| 45869.3046         | 8.763  | 1.591 | 1.797 | 1.468 |                    |       |       |       |       |



| JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | B-V   | V-R         |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------------|
| SV VUL             |        |       |       |       | AS VUL             |        |       |       |             |
| 45868.2538         | 7.775  | 1.605 | 1.713 | 1.297 | 45187.2617         | 12.263 |       |       | 2.017       |
| 45869.3125         | 7.753  | 1.582 | 1.700 | 1.288 | 45188.2578         | 12.300 |       |       |             |
| 45870.2889         | 7.725  | 1.517 | 1.664 | 1.272 | 45190.3046         | 12.653 |       |       | 2.130       |
| 45871.2617         | 7.645  | 1.418 | 1.601 | 1.235 | 45191.3085         | 12.685 |       |       | 2.080       |
| 45872.2812         | 7.502  | 1.272 | 1.532 |       | 45192.3125         | 12.479 |       |       | 1.966       |
| 45873.2734         | 7.312  | 1.124 | 1.411 | 1.132 | 45193.3593         | 12.355 |       |       | 1.883       |
| 45874.2655         | 7.054  | 0.962 | 1.305 | 1.045 | 45194.3359         | 12.275 |       |       | 1.815       |
| 45875.2617         | 6.859  | 0.893 | 1.188 | 0.985 | 45198.3476         | 12.108 |       |       | 1.943       |
| 45876.2617         | 6.761  | 0.868 | 1.164 | 0.956 | 45201.3242         | 12.519 |       |       | 2.091       |
| 45877.2812         | 6.754  | 0.886 | 1.149 | 0.978 | 45203.3280         | 12.692 |       |       | 2.096       |
| 45878.2578         | 6.739  | 0.875 | 1.167 | 0.966 | 45204.2889         | 12.574 |       |       | 2.006       |
| 45879.2655         | 6.758  | 0.910 | 1.180 | 0.980 | 45649.1718         | 11.908 |       |       | 1.753 1.558 |
| 45880.2734         | 6.780  | 0.918 | 1.217 | 1.012 | 45665.1250         | 12.377 |       |       | 2.055 1.671 |
| 45881.2538         | 6.827  | 0.980 | 1.233 | 1.036 | 45668.1171         | 12.638 |       |       | 2.083 1.703 |
| 45882.2578         | 6.851  | 0.995 | 1.292 | 1.034 | 45675.1093         | 12.143 |       |       | 1.978 1.608 |
| 45883.2655         | 6.852  | 1.035 | 1.314 | 1.051 | 45864.3163         | 12.572 |       |       | 2.079 1.680 |
| 45886.2578         | 6.967  | 1.179 | 1.422 | 1.114 | 45866.3554         | 12.331 |       |       | 1.861 1.615 |
| 45887.2538         | 6.993  | 1.194 | 1.456 | 1.121 | 45867.3280         | 11.953 | 1.386 | 1.729 | 1.484       |
| AS VUL             |        |       |       |       | 45868.2578         | 11.803 | 1.259 | 1.739 | 1.486       |
| 44825.3867         | 12.564 |       | 2.009 |       | 45869.3163         | 11.905 | 1.415 | 1.774 | 1.549       |
| 44827.2578         | 12.350 |       |       |       | 45870.2929         | 12.053 | 1.529 | 1.852 | 1.608       |
| 44829.2812         | 11.833 |       | 1.754 |       | 45871.2889         | 12.149 | 1.832 | 1.969 | 1.632       |
| 44830.2578         | 11.939 |       | 1.801 |       | 45872.2851         | 12.307 |       | 2.020 | 1.679       |
| 44831.2578         | 12.085 |       | 1.884 |       | 45873.2772         | 12.434 |       | 2.122 | 1.693       |
| 44832.2617         | 12.210 |       | 1.990 |       | 45874.2695         | 12.577 |       | 2.150 | 1.743       |
| 44833.2500         | 12.323 |       | 2.043 |       | 45875.2617         | 12.677 |       | 2.128 | 1.729       |
| 44835.3710         | 12.657 |       | 2.167 |       | 45876.2617         | 12.626 |       | 2.086 | 1.703       |
| 44844.2304         | 12.173 |       | 1.952 |       | 45877.2851         | 12.419 |       | 1.939 | 1.655       |
| 44845.2109         | 12.297 |       | 2.026 |       | 45878.2617         | 12.328 |       | 1.866 | 1.623       |
| 44846.2500         | 12.434 |       | 2.080 |       | 45879.2655         | 12.141 |       | 1.777 | 1.559       |
| 44847.2226         | 12.547 |       | 2.116 |       | 45880.2772         | 11.802 |       | 1.694 | 1.489       |
| 44848.2147         | 12.707 |       | 2.150 |       | 45881.2538         | 11.879 |       | 1.759 | 1.519       |
| 44849.2460         | 12.680 |       | 2.079 |       | 45882.2617         | 12.003 |       | 1.886 | 1.566       |
| 44850.2421         | 12.451 |       | 1.979 |       | 45883.2655         | 12.133 |       | 1.935 | 1.640       |
| 44851.2381         | 12.347 |       | 1.889 |       | 45886.2617         | 12.533 |       | 2.138 | 1.715       |
| 44852.2304         | 12.227 |       | 1.798 |       | 45887.2538         | 12.641 |       | 2.134 | 1.722       |
| 44854.2343         | 11.878 |       | 1.763 |       | DG VUL             |        |       |       |             |
| 44855.2226         | 12.032 |       | 1.843 |       | 44825.3945         | 10.734 |       | 1.710 |             |
| 44856.2187         | 12.180 |       | 1.908 |       | 44827.2655         | 11.106 |       | 1.907 |             |
| 44857.2187         | 12.312 |       | 1.991 |       | 44829.2889         | 11.350 |       | 2.075 |             |
| 44880.2070         | 12.078 |       | 1.907 |       | 44830.2655         | 11.468 |       | 2.108 |             |
| 44881.1953         | 12.206 |       | 1.977 |       | 44831.2617         | 11.594 |       | 2.197 |             |
| 44882.2421         | 12.351 |       | 2.048 |       | 44832.2695         | 11.733 |       | 2.219 |             |
| 44884.1679         | 12.651 |       | 2.092 |       | 44833.2578         | 11.811 |       | 2.232 |             |
| 45175.4062         | 12.308 |       | 2.040 |       | 44835.3788         | 11.748 |       | 2.114 |             |
| 45178.3788         | 12.679 |       | 2.139 |       | 44844.2381         | 11.508 |       | 2.131 |             |
| 45179.2772         | 12.667 |       | 2.082 |       | 44845.2147         | 11.644 |       | 2.185 |             |
| 45180.3046         | 12.442 |       | 1.976 |       | 44846.2538         | 11.762 |       | 2.245 |             |
| 45181.2538         | 12.349 |       | 1.983 |       | 44847.2304         | 11.816 |       | 2.201 |             |
| 45182.2529         | 12.274 |       | 1.819 |       | 44848.2187         | 11.827 |       | 2.166 |             |
| 45183.2851         | 11.788 |       | 1.667 |       | 44849.2500         | 11.711 |       | 2.098 |             |
| 45184.2500         | 11.852 |       | 1.763 |       | 44850.2460         | 11.596 |       | 2.057 |             |
| 45186.2851         | 12.123 |       | 1.967 |       | 44851.2421         | 11.408 |       | 1.957 |             |

| JD HFL<br>2400000+ | V      | U-B   | B-V   | V-R   | JD HEL<br>2400000+ | V      | U-B   | R-V   | V-R   |
|--------------------|--------|-------|-------|-------|--------------------|--------|-------|-------|-------|
| DG VML             |        |       |       |       | DG VML             |        |       |       |       |
| 44852.2343         | 10.784 |       | 1.719 |       | 45875.2655         | 11.110 |       | 1.921 | 1.634 |
| 44853.2460         | 10.927 |       | 1.814 |       | 45876.2695         | 11.219 | 1.705 | 2.007 | 1.683 |
| 44854.2381         | 11.076 |       | 1.901 |       | 45877.2889         | 11.366 |       | 2.088 | 1.750 |
| 44855.2264         | 11.192 |       | 1.975 |       | 45878.2655         | 11.488 |       | 2.134 | 1.785 |
| 44856.2226         | 11.320 |       | 2.017 |       | 45879.2695         | 11.632 |       | 2.184 | 1.814 |
| 44857.2226         | 11.448 |       | 2.101 |       | 45880.2812         | 11.754 |       | 2.220 | 1.849 |
| 44860.2109         | 10.823 |       | 1.767 |       | 45881.2578         | 11.839 |       | 2.220 | 1.848 |
| 44881.1992         | 11.026 |       | 1.898 |       | 45882.2655         | 11.827 |       | 2.183 | 1.823 |
| 44882.2460         | 11.159 |       | 1.934 |       | 45883.2695         | 11.711 |       | 2.100 | 1.781 |
| 44883.1796         | 11.277 |       | 2.017 |       | 45886.2655         | 10.843 |       | 1.745 | 1.506 |
| 44884.1718         | 11.422 |       | 2.062 |       | 45887.2578         | 10.821 | 1.451 | 1.764 | 1.506 |
| BG VUL             |        |       |       |       | BG VUL             |        |       |       |       |
| 45175.4101         | 11.735 |       | 2.116 |       | 45194.3125         | 14.029 |       | 2.281 |       |
| 45178.3828         | 11.042 |       | 1.803 |       | 45195.3006         | 13.946 |       | 2.242 |       |
| 45179.2851         | 10.740 |       | 1.717 |       | 45198.3397         | 13.072 |       | 2.065 |       |
| 45181.2617         | 11.120 |       | 1.919 |       | 45199.2889         | 13.302 |       | 2.162 |       |
| 45182.2655         | 11.238 |       | 1.972 |       | 45201.3006         | 13.535 |       | 2.249 |       |
| 45183.2929         | 11.343 |       | 2.079 |       | 45204.2304         | 13.884 |       | 2.321 |       |
| 45184.2538         | 11.485 |       | 2.106 |       | 45205.2421         | 14.001 |       | 2.354 |       |
| 45186.2929         | 11.746 |       | 2.215 |       | 45207.2460         | 14.043 |       | 2.292 |       |
| 45187.2695         | 11.820 |       | 2.215 |       | 45208.2695         | 13.903 |       | 2.244 |       |
| 45188.2655         | 11.816 |       | 2.173 |       | 45209.2226         | 13.767 |       | 2.241 |       |
| 45189.2968         | 11.705 |       | 2.119 |       | 45210.2304         | 13.524 |       | 2.150 |       |
| 45190.3125         | 11.591 |       | 2.035 |       | 45211.2187         | 13.082 |       | 2.054 |       |
| 45191.3163         | 11.451 |       | 1.973 |       | 45212.2460         | 13.337 |       | 2.195 |       |
| 45192.3163         | 10.813 |       | 1.715 |       | 45213.2304         | 13.420 |       | 2.216 |       |
| 45193.3631         | 10.881 |       | 1.770 |       | 45214.2343         | 13.582 |       | 2.227 |       |
| 45194.3397         | 11.065 |       | 1.879 |       | 45646.1679         | 13.874 |       |       | 2.110 |
| 45198.3514         | 11.545 |       | 2.164 |       | 45649.1679         | 14.085 |       |       | 2.145 |
| 45201.3320         | 11.849 |       | 2.194 |       | 45665.1210         | 13.622 |       |       | 2.027 |
| 45203.3359         | 11.657 |       | 2.082 |       | 45668.1054         | 13.430 |       |       | 2.043 |
| 45204.2929         | 11.559 |       | 2.020 |       | 45675.1014         | 14.004 |       |       | 2.101 |
| 45208.2812         | 11.109 |       | 1.895 |       | 45866.4218         | 13.793 |       | 2.330 | 2.064 |
| 45644.2304         | 11.131 |       |       |       | 45868.3631         | 13.079 |       | 2.140 | 1.880 |
| 45646.1875         | 11.473 |       |       |       | 45869.3788         | 13.274 |       | 2.177 | 1.958 |
| 45648.1562         | 11.692 |       | 1.820 |       | 45870.3710         | 13.309 |       | 2.193 | 2.013 |
| 45649.1835         | 11.753 |       | 1.819 |       | 45871.3828         | 13.512 |       | 2.237 | 2.070 |
| 45650.1913         | 11.873 |       | 1.814 |       | 45872.3750         | 13.607 |       | 2.329 | 2.080 |
| 45658.1250         | 11.191 |       | 1.650 |       | 45873.3750         | 13.748 |       | 2.381 | 2.134 |
| 45659.1210         | 11.322 |       | 1.767 |       | 45874.3750         | 13.915 |       | 2.388 |       |
| 45665.1405         | 11.772 |       | 1.788 |       | 45875.3631         | 14.007 |       | 2.284 | 2.165 |
| 45666.1014         | 11.652 |       | 1.742 |       | 45876.3750         | 14.097 |       | 2.296 | 2.168 |
| 45668.1250         | 11.165 |       | 1.890 | 1.601 | 45877.3554         | 14.013 |       | 2.327 | 2.110 |
| 45675.1250         | 11.615 |       |       | 1.803 | 45878.3554         | 13.875 |       | 2.287 | 2.091 |
| 45684.1242         | 11.431 |       | 2.104 | 1.767 | 45879.3676         | 13.762 |       | 2.241 | 2.067 |
| 45686.1523         | 11.705 |       | 2.211 | 1.814 | 45880.3514         | 13.532 |       | 2.244 | 1.999 |
| 45687.1359         | 11.907 |       | 2.228 | 1.823 | 45881.3637         | 13.083 |       | 2.050 | 1.913 |
| 45688.2234         | 11.841 | 2.017 | 2.186 | 1.849 | 45882.3397         | 13.350 |       | 2.166 | 2.000 |
| 45689.1350         | 11.778 | 1.956 | 2.133 | 1.809 | 45883.3554         | 13.464 |       | 2.155 | 2.061 |
| 45690.3095         | 11.623 | 1.747 | 2.087 | 1.754 | 45886.3593         | 13.789 |       | 2.326 | 2.140 |
| 45691.1306         | 11.541 | 1.709 | 2.010 | 1.721 | 45887.3621         | 13.923 |       | 2.360 | 2.137 |
| 45875.2867         | 11.127 |       | 1.841 | 1.588 |                    |        |       |       |       |
| 45876.1812         | 10.759 |       | 1.730 | 1.506 |                    |        |       |       |       |
| 45884.2234         | 10.777 | 1.509 | 1.856 | 1.599 |                    |        |       |       |       |