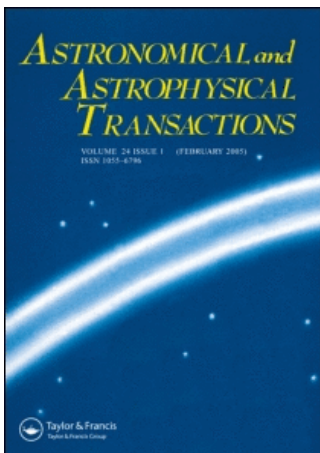


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Equatofual spectrophotometric standards of intermediate brightness

V. M. Tereshchenko^a

^a Astronomical Institute, Alma-Ata, Kazakhstan

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EQUATORIAL SPECTROPHOTOMETRIC STANDARDS OF INTERMEDIATE BRIGHTNESS

V. M. TERESHCHENKO

Astronomical Institute, Alma-Ata, Kazakhstan

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The programme of the creation of a homogeneous system of equatorial spectrophotometric standard stars for intermediate- and large-size telescopes is described.

KEY WORDS Standard stars, spectrophotometry

The aim of this study is a uniform system of equatorial spectrophotometric standards to be used with large and intermediate-size telescopes. We plan to obtain absolute energy distributions for 43 equatorial ($|\sigma| < 3^\circ$) intermediate-brightness ($6.5^m < V < 8.5^m$) stars in the spectral region of 3150–7550 Å with a resolution of 50 Å. The criterion for the selection of the standard stars is the following: at any time, a pair of stars should be observable near the sky meridian (hour angle < 1 h) – one early-type (B9–A2) star and one intermediate-type (G0–G5) star. It is important that both stars are equally observable from both hemispheres of the Earth.

The homogeneity of the standard-star system is achieved with the attachment of all the stars to a single primary standard – the circumpolar star HD 221525 ($V = 5.58$; F0III); we obtained the energy distribution for this star earlier (Tereshchenko and Glushkova, 1992). Note that we used this star as a primary standard in our work on a spectrophotometric version of the North Polar Sequence (Tereshchenko, 1994). Each star should be observed not less than four times in different nights; the expected standard deviations would be 2–4%. We plan also to observe the spectrophotometric standards in the *UBVR* system, too. We plan to carry out the spectrophotometric and photometric observations in the high-altitude conditions, on the 1-m and 0.5-m telescopes, with the concave-grating spectrograph and a *UBVR* photometer. Partly, this work has already been done.

To reveal random and systematic errors in the observations, as well as possible variability of some of the selected standard stars, check-up observations with different instruments in other conditions are highly desirable. In this connection, the author would like to attract the attention of other observers to this program.

Table 1 lists the equatorial standard stars.

Table 1 The Equatorial Standard Stars.

<i>N</i>	<i>HD</i>	<i>V</i>	<i>Sp</i>	<i>N</i>	<i>HD</i>	<i>V</i>	<i>Sp</i>
1	2830	7.03	A0	22	100237	7.6	A0V
2	3628	7.32	G2V	23	102844	7.90	G0V
3	9716	7.5	A0V	24	108228	7.6	A0V
4	13043	6.91	G2V	25	109098	7.6	G0V
5	17808	8.0	A0V	26	121513	8.0	A0V
6	20619	7.04	dG2	27	126053	6.27	G1V
7	23009	7.8	A0V	28	133409	8.0	A0V
8	27063	7.8	G0V	29	138369	7.7	G0V
9	29788	8.0	B9.5V	30	147470	7.7	A0V
10	36117	7.97	A0	31	152391	6.64	G6V
11	39833	7.8	G0V	32	158509	7.9	B9.5V
12	46090	7.70	G0V	33	169225	7.5	B9.5V
13	47221	7.9	B9.5V	34	172233	8.04	G0
14	59688	7.5	G0V	35	185198	7.5	B9.5V
15	60475	7.8	B9.5V	36	186104	7.7	G0V
16	71431	7.8	G0V	37	193559	8.0	B9.5V
17	75620	8.01	A0V	38	194764	7.1	G0V
18	80916	8.00	A0V	39	203993	7.53	A0
19	83290	7.9	G0V	40	212837	6.8	G0
20	88725	7.76	G1V	41	216261	7.90	A0V
21	90212	7.9	A0V	42	219018	7.72	GV
				43	221629	7.8	A2V

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