

Four New SX Phoenicis Variable Stars

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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1		TYC 2304 00992 1	01 22 59.81, +36 28 16.7	SXPHE	12.8	13.05	R	0.089613	2451481.805	max		Comm. 1	1.PNG	chart1.PNG	NSVS 6443401
2		GSC 2301-01168	01 31 49.24, +35 13 23.7	SXPHE	14.5	15.1	R	0.068983	2451477.967	max		Comm. 2	2.PNG	chart2.PNG	NSVS 6450679 NSVS 6462670
3		GSC 2815-00790	01 44 27.96, +37 58 53.7	SXPHE	12.9	13.5	R	0.10694	2451469.948	max		Comm. 3	3.PNG	chart3.PNG	NSVS 3844113 NSVS 6459386 NSVS 6472319
4		GSC 4537-00511	06 15 20.90, +82 08 13.4	SXPHE	13.7	14.1	R	0.077493	2451483.966	max		Comm. 4	4.PNG	chart4.PNG	NSVS 85082 NSVS 110704 NSVS 585617 NSVS 633402

Comments:

1. $M-m = 0.35$, $B-V = -0.253$ (Tycho2) is possibly erroneous, the star is too faint for this catalog. $J-H = 0.136$ (2MASS).
2. $M-m = 0.3$, $J-H = 0.168$ (2MASS). The ROTSE data with photometric correction flags (usually rejected) were kept for the analysis.
3. $M-m = 0.25$, $J-H = 0.065$ (2MASS). The ROTSE data with photometric correction flags (usually rejected) were kept for the analysis.
4. $M-m = 0.3$, $J-H = 0.120$ (2MASS).

Remarks:

I present the discovery of 4 new High-Amplitude Delta Scuti stars (HADS). Their large distances from the galactic plane make it possible to consider them SX Phoenicis variables. My search for variables was carried out in the publicly available data of the Northern Sky Variability Survey (NSVS, Wozniak et al., 2004, also see <http://skydot.lanl.gov/nsvs>). These observations were analyzed using the period-search software developed by Dr. V.P. Goranskij for Windows environment. The coordinates are from the 2MASS catalog.

References:

Wozniak, P.R., Vestrand, W.T., Akerlof, C.W. et al., 2004, *Astron. J.*, 127, 2436