

COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS

Number 4856

Konkoly Observatory
Budapest
2 March 2000

HU ISSN 0374 – 0676

IDENTIFICATION OF VARIABLE STARS IN INDUS

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Continuing the program conducted to improve the coordinates of variable and suspected variable stars in the southern hemisphere (López and Girard 1990, López and Lépez 2000), accurate positions for confirmed variables in the Indus region are herein presented.

Considering the finding charts recommended by the GCVS (Kholopov et al. 1985) we identified the confirmed variables in this area in the USNO A2.0 catalogue (Monet et al. 1998) which was read and displayed using a program developed by Manek (1999).

The results are presented in two tables. Table 1 lists those variables included in catalogues such as HIPPARCOS (HIP), TYCHO (TYC) (ESA, 1997) or PPM (Röser and Bastian, 1991). For these stars we only list the identification number in the respective catalogues. We also added, in the AC column, the AC2000 (Urban et al. 1998) catalogue number.

Table 2 lists the positions of the variables we were able to successfully identify in the USNO A2.0. The first column gives the variable star name while the positions, as extracted from the USNO A2.0, are listed in the second and third columns. The Guide Star Catalogue (Lasker et al. 1990) number is listed in the GSC column. In the fifth column we included an alternative designation; in general it is the preliminary name used in the finding chart recommended by the GCVS. Those variables which were also identified in the AC2000 catalogue are marked with an asterisk (*) and the AC2000 number is given in the Notes to Table 2.

The improvement of the coordinates is not complete since two of the confirmed variables in this constellation (listed in the GCVS) were not identified. They are RX Ind and AV Ind, for which, as noted in the GCVS, no finding charts are available.

We would like to express our gratitude to Dr. Jan Manek for making his program available to display both the USNO A1.0 and USNO A2.0 catalogues. Our thanks also go to Dr. Dave Monet for providing a copy of the USNO A1.0 as well as the USNO A2.0 and to Dr. Nikolai Samus for many helpful comments and suggestions.

Table 1: Variables in HIP, TYC, PPM, and AC2000 catalogues

GCVS	HIP	TYC	PPM	AC
R Ind		9124 121		
S Ind		8792 1227	348975	4376676
T Ind	105334	8422 584	327089	3965816
U Ind		8419 978	774536	
V Ind	104613	8422 875	326956	
W Ind		8793 636	774672	4378516
X Ind		8806 1426	774725	
Y Ind		8807 304		
Z Ind		8440 1153	765235	
RR Ind	107490	9122 78		4593294
RS Ind		9327 425	375067	
RT Ind		8795 1088	774562	
RU Ind		8812 1074		
RY Ind		8408 686	326706	
RZ Ind		8429 945		
SS Ind		9123 503		4594813
ST Ind		8410 1555		3956729
SU Ind	103215	8408 1462	326648	3960978
TV Ind		8794 621	348662	
AK Ind	104424	8421 29	326921	
AQ Ind		8821 746		4384869
AX Ind		8800 817	774608	
AY Ind	107705	9331 189	375135	
BB Ind		8407 1031	764937	
BC Ind	107525	9323 259	365372	

Table 2: Positions and Identifications of Variables in Indus

GCVS	RA	(2000)	Dec	GSC	Other ID	Note
RV Ind	23 00	59.568	-70 56 19.36		CD-71°1769	
RW Ind	21 58	29.238	-69 12 36.27	9323.0715	380.1931	*
SV Ind	20 30	15.882	-55 04 51.39	8794.1150	S 6893	
SW Ind	20 30	26.171	-48 14 58.19	8410.1623	S 7692	*
SX Ind	20 30	43.031	-46 02 19.20	8406.1135	S 6747	
SY Ind	20 32	54.138	-59 07 09.50	8802.0968	S 6896	
SZ Ind	20 32	29.647	-55 25 37.10	8794.1460	S 6898	
TT Ind	20 33	36.684	-56 31 52.33		S 6899	
TU Ind	20 33	10.557	-45 26 00.89		S 6749	
TW Ind	20 33	42.833	-46 12 36.41	8406.1091	S 6751	
TX Ind	20 34	47.089	-58 43 24.40		S 6900	
TY Ind	20 36	14.739	-59 02 39.80	8802.1130	S 6902	
TZ Ind	20 36	12.133	-53 28 02.98		S 6903	
UU Ind	20 38	53.967	-58 03 57.95	8798.0132	S 6904	
UV Ind	20 39	8.937	-54 25 15.82	8794.0022	S 6905	
UW Ind	20 39	06.742	-53 17 54.93	8790.0708	S 6906	
UX Ind	20 39	40.927	-54 27 32.64	8794.0879	S 6908	
UY Ind	20 40	16.560	-54 07 31.34	8791.1196	S 6910	
UZ Ind	20 40	43.855	-58 21 54.50	8803.0423	S 6909	
VV Ind	20 40	29.803	-53 16 53.75	8791.1130	S 6911	
VW Ind	20 41	00.817	-46 32 35.97	8407.0741	S 6759	
VX Ind	20 41	51.421	-47 06 43.19	8411.1161	S 6764	*
VY Ind	20 42	06.335	-47 04 39.52	8411.0452	S 6766	
VZ Ind	20 42	27.743	-46 07 22.91		S 6767	
WW Ind	20 44	49.083	-55 41 25.49		S 6912	
WX Ind	20 44	32.167	-46 16 30.31	8407.0442	S 6770	
WY Ind	20 44	30.853	-45 41 37.15		S 6771	
WZ Ind	20 46	19.339	-53 48 09.67	8791.1448	S 6915	
XX Ind	20 48	35.261	-58 38 15.55		S 6916	
XY Ind	20 49	26.999	-59 04 29.81		S 6918	
XZ Ind	20 48	35.923	-46 24 53.64	8407.0775	S 6777	
YY Ind	20 49	29.745	-45 35 34.05	8408.0123	S 6778	
YZ Ind	20 51	01.064	-58 26 43.05		S 6919	
ZZ Ind	20 50	27.219	-45 33 07.26		S 6780	
AA Ind	20 50	33.330	-46 46 46.33	8408.0494	S 6781	
AB Ind	20 51	17.183	-46 07 46.74		S 6784	
AC Ind	20 53	20.691	-58 51 57.77		S 6920	
AD Ind	20 53	09.631	-54 49 19.71		S 6921	
AE Ind	20 53	24.441	-56 01 27.59	8796.1142	S 6922	*
AF Ind	20 56	36.000	-59 10 03.44	8804.0529	S 6925	
AG Ind	20 59	38.278	-59 22 35.46	8804.0858	S 6927	

Table 2: cont'd.

GCVS	RA (2000)	Dec	GSC	Other ID	Note
AH Ind	20 59 49.626	-59 16 07.18	8804.0874	S 6928	
AI Ind	21 05 10.615	-46 32 53.05		S 6801	
AL Ind	21 09 57.084	-47 28 52.97	8425.1256	S 6806	
AM Ind	21 14 21.695	-45 27 53.39	8422.0392	S 6815	
AN Ind	21 21 19.636	-46 44 06.56	8422.1067	S 6819	
AO Ind	22 00 29.060	-50 29 39.67	8444.1487	S 7702	*
AP Ind	22 05 44.694	-55 59 59.97	8813.0342	CP-56°9807	
AR Ind	20 31 19.267	-55 23 00.06	8794.0844	S 6894	
AS Ind	20 32 28.472	-55 27 59.85	8794.0842	S 6897	
AT Ind	20 39 30.261	-54 36 36.29		S 6907	
AU Ind	20 46 16.106	-58 36 39.33		S 6914	
AW Ind	20 53 55.251	-57 29 16.70	8800.0196	S 6923	
AZ Ind	22 33 30.767	-69 33 44.09	9337.1994	S 7705	

Notes to Table 2:

RW Ind	AC 4594157	SW Ind	AC 3955468
VX Ind	AC 3958315	AE Ind	AC 4376355
AO Ind	AC 3973094		

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