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A DATABASE FOR RS CVn BINARY STAR SYSTEMS

We are currently undertaking the task of compiling a Catalog of RS CVn Binary Star Systems. The catalog is broken into four section. The contents of each section is as follows:

Section 1

1. Douglas S.Hall identification number.
2. One of the more commonly used names for the system.
3. Distance to the system in parsecs.
4. 1950 coordinates.
5. Spectral and luminosity classes for the hot and cool stars.
6. Average V maximum outside of eclipse (magnitude).
7. Distortion wave V maximum amplitude (magnitude).
8. A reported x-ray flux in units of 10^{31} ergs/sec.
9. A reported radio flux in units of Janskies.
10. Whether or not H-alpha has been observed in emission.
11. Ca II H and K emission. Star that shows the emission is indicated.
12. Colors in which the system is known to have been observed.
13. Type of eclipsing system (total, partial or none).

Section 2

1. Julian date of conjunction with the presumed cooler star behind.
2. Orbital period in days.
3. Quadratic term in the ephemeris, in days. All values come from the Hall-Kreiner paper in ACTA ASTRONOMICA (30), 387
4. Orbital eccentricity.
5. Indication of variability in the period.
6. Masses (solar units) of the components.
7. Radii (solar units) of the components.
8. Configuration (Detached, Contact, Semi-detached).

Section 3 is a cross-reference for the various names for each system consisting of 1) Bayer (Greek Letter) identification, 2) Flamsteed number,

Table I

Section 1

I.D. Name / Distance	R.A. (1950) / Dec. (1950)	Hot / Cool	Aver. Wave	Max.	X-ray (E+31) Radio (JY)	H-alpha H and K	Colors Eclipse
1							
RT And	23 08 56	F8 V	9.01		Soft, <4.0		UBVR
95	+52 45 16	G9-KOV	0.04			Yes	Total
2							
Zeta And	00 44 41	K1 II	4.06		Soft, 0.138		UBVR
31	+23 59 44	-	0.02			Only	Partial
3							
Lambda And	23 35 06	G8 IV-III	3.88		Soft, 0.363	Yes	UBVR
24	+46 11 14	-	0.30		2.0E-2	Only	None
4							
UX Ari	03 23 33	G5 V	6.5		Soft, 2.1	Yes	UBVR (IUE)
50	+28 32 32	K0 IV	0.1		.200 Variable	Cool	None
5							
CQ Aur	06 00 39	G0	9.0		Soft, 0.871		UBVR
220	+31 19 51	-				Cool	Total

Section 2

I.D. J.D.(hel)	Period(days)	Quadratic term	e	Period var.	Masses	Radii	
1							
2441141.88902	+0.628929513	-6.33E-11	0.09	-21.1	1.50/0.99	1.36/1.00	D*
2							
2432751.617	+17.7692		0.00		2.70/0.78	14.08/1.44	C?*
3							
2429199.994	+20.5212		0.04		F(M)=0.000611		
4							
2440133.766	+6.43791				0.63/0.71		
5							
2429558.728	+10.621943	+3.78E-7		+5.8	1.6/2.0	1.9/8.7	

*D=detached, C=contact

Section 3

I.D.	Bayer	Flamsteed	HR	HD	BD	Variable	Visual
1.					BD +52 3383A	RT And	
2.	Zeta And	34 And	HR 215	HD 4502	BD +23 106	Zeta And	
3.	Lambda And	16 And	HR 8961	HD 222107	BD +45 4283	Lambda And	
4.				HD 21242	BD +28 532	UX Ari	
5.				HD 250810	BD +31 1179	CQ Aur	

3) Yale Bright Star Catalog number, 4) Henry Draper Catalog number, 5) BD number, 6) Variable star designation and 7) Visual binary designation. Section 4 will contain a bibliography on each source in the catalog (yet to be compiled). A sample listing for each section is given in Table I.

Copies of the catalog are available in tabular printout form or on 5-1/4" floppy diskettes for APPLE micro-computer systems. The first three sections of the catalog are in VISIFILE format, but they can be converted to DIF format on request. The bibliography is currently available in SUPER FILE CABINET format only. Observers are invited to send us preprints and reprints of published data so that we can continually update the catalog.

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