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SPECTRAL TYPES OF ECLIPSING BINARIES

37 eclipsing binaries were observed by the author utilizing the 2.1-m telescope and image-intensified White spectrograph of the Kitt Peak Observatory.  $46 \text{ \AA mm}^{-1}$  was achieved on forming gas baked IIIa-J plates in the second order blue. The spectra were well-exposed from nearly H12 to the Na I D-lines near  $5900 \text{ \AA}$ . With the exception of V766 Sgr (which was underexposed), all plates were of good quality. The spectrum of each star was visually classified by comparison with the MK classes of known standard stars. Table I contains

Table I  
 Spectral Types

Variable	UT Date (1983)	SP. Type	Previous SP. Type
UU And	Jul 17.472	A8IV/V	F5
XZ And	Jul 18.463	A1 V	A0, A4 IV, A4 V
CZ Aqr	Jul 18.451	A7 V	A5
YZ Aql	Jul 17.251	A2 III	A3
V343 Aql	Jul 16.362	A0 V	A2, A0 V, B9 V
TY Cap	Jul 17.347	A2/3 V	A5
AQ Cas	Jul 18.457	B3 V	B3 + B9
FV Cas	Jul 17.460	A0 V	---
BB Cep	Jul 17.447	F1 V	G0
KV Cyg	Jul 17.340	B1 V	B0
V687 Cyg	Jul 16.343	A0 V	A1
V698 Cyg	Jul 16.369	A7 IV	B2
V728 Cyg	Jul 16.404	A0 V	A0
TT Del	Jul 16.432	A1 V	A1
AV Del	Jul 16.439	F8 V	F8
BS Del	Jul 16.451	G0 V	---
SZ Her	Jul 18.145	FO V (comp)	A0, A3, A5, FO V, F4 V
TU Her	Jul 16.219	FO III/IV	F5
BO Her	Jul 16.326	A7 V	A7
CC Her	Jul 18.159	A1 V (p Sr)	A0
CT Her	Jul 16.206	A3 V	A0, A3 V
TW Lac	Jul 17.438	A3 IV	A2
RV Lyr	Jul 16.335	A3 V	A
EW Lyr	Jul 16.291	A8/9 V	F0
SW Oph	Jul 16.187	A3 V	A0
SZ Oph	Jul 16.226	A9 III	A
V535 Oph	Jul 17.231	B9 V(p)	A3
UX Peg	Jul 18.444	G5 V	A2
SX Psc	Jul 17.479	A7 V	F1

Table I (cont.)

Variable	UT Date (1983)	SP. Type	Previous SP. Type
UZ Sge	Jul 16.396	A3 V	AO
V524 Sgr	Jul 17.302	F8 III	F8
V766 Sgr	Jul 17.259	A6/9(e)	--
BS Sco	Jul 17.267	B5 V	F8
CT Sct	Jul 17.287	B7 V(n)	A2
VV Vul	Jul 17.366	A2/3 V	--
AX Vul	Jul 17.358	A1 V	A2
BQ Vul	Jul 16.413	AO IV	AO

the spectral types and plate information. The previous spectral type listed is usually from the GCVS. Individual comments for some of the stars follow.

AQ Cas: A detailed investigation of the spectral changes was published by Struve (1946). The current spectrum was solely that of a B3 V star with the helium lines perhaps slightly enhanced in strength. No trace of either the secondary or any emission was seen.

SZ Her: The spectrum of the primary has been stated to be variable. The plate obtained showed conflicting criteria. The spectrum is likely composite as both the G-band and  $\lambda 4226$  seemed suppressed, though the H and K lines were approximately equal in intensity.

CC Her: Strontium seems slightly enhanced in the spectrum of this star.

V535 Oph: The spectrum is unusual in having a typical B9 V spectrum with an unusually strong K-line of an intensity more befitting a mid-A type. This may be a function of composite nature but if so, remains the sole indication of the second star.

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Reference:

Struve, O., 1946, Ap.J., 104, 253