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θ^2 Sgr, NOT AN Am STAR

Owing to an undetected punch-card error during the preparation of the 1964 version of the Bright Star Catalogue the spectral type that was intended for HR 6724 (Hoffleit 1950) was inadvertently attributed to HR 7624, θ^2 Sgr. The most recent class for θ^2 Sgr is A4/5IV (Houk 1982). Regretably this refutes Anders' (1992) conclusion that his discovery of the variability of this star constitutes an unusual discovery of the variability of an Am type star. As he indicated, there are no previous discoveries of the variability of θ^2 Sgr. Anders' "target star", HR 7631 was originally reported by Corben et al (1972) as varying by 0.07V, but they did not indicate any specific comparison star, nor the time-span of their observations. Superimposed on Anders' steady increase in the difference between HR 7631 and 7624 a 0.07V flare is indicated, the same range as previously reported for HR 7631 = NSV 12655, based on only six observations. Table I gives data for these stars as listed in the current tape version of the Bright Star Catalogue (BS5).

Table I. Potential Variables and Comparison Star

HR	HD	RA (1950) h m o	Dec '	M_v	Sp	Remark
7624	189118	19 56.6	-34 50	5.30	A4/5IV	VAR
7631	189245	19 57.1	-33 50	5.66	F7V	NSV 12655
7585	188158	19 51.9	-33 11	6.46	K2/3III	Comparison

A comparison of the differences between the photoelectric V magnitudes and those read from Anders' Figures 1a and 1b is given in Table II, showing reasonably consistent results. It is intriguing that the flare of θ^2 Sgr has the same amplitude as that reported for HR 7631. Both stars need to be extensively monitored against comparison sources that have not yet been suspected of variability.

Table II. Comparisons

HR	BS5 V	Anders V	"Flare" Amp V
7631 - 7585	-0.80	-0.88	0.07
7631 - 7624	+0.36	+0.03 to +0.28	0.07

The star previously classified Am, HR 6724, has been variously classified, as shown in Table III. Could this be a spectrum variable?

Table III. HR 6724

Sp.	Source
A5	Cannon, HD 164584, 1922
A8s	Adams et al, Ap.J., <u>81</u> , 187, 1935.
Am, A8+F4	Hoffleit, "Dually classified", Harvard Ann., <u>119</u> , 1950.
F0II	Herbig, in M.F. Walker, Ap.J., <u>125</u> , p. 636, 1957.
F5II	Bidelman, Idem, p. 636.
F3III	Morgan and Abt, A.J., <u>77</u> , 36, 1972
F5II-III	Malaroda, A.J., <u>80</u> , 637, 1975
F2/3II/III	Houk, Michigan Sp. Cat., <u>3</u> , 1982

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References:

- Anders, G. J. 1992, I.B.V.S. No. 3768.
Corben, P. M., Carter, B. S., Banfiels, R. M., and Harvey, G. M. 1972, Mon. Notices Ast. Soc. S. Africa, 31, 7.
Hoffleit, D. 1950, Ann. Harvard Coll. Obs., 119, No. 1.
Houk, N. 1982, Michigan Spectral Catalogue, Vol. 3, p. 291.

Erratum:

In I.B.V.S. 3768, first ref., for Ap.J. read Ap.J. Supp.