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REVISED ELEMENTS FOR THREE ECLIPSING BINARIES

V 646 Cas

Photoelectric observations made by Faulkner (1985) indicated that the preliminary elements published by the present author (1982) were incorrect. The elements given by Faulkner could be confirmed and refined from new observations made at Hartha (1965-1975) and Sonneberg (1956-1959 and 1974-1983) (altogether 289) sky-patrol plates and a rediscussion of the former material.

A weighted least squares analysis of 8 normal minima and the secondary minimum of Faulkner's paper yields the following elements:

$$\text{Min. hel.} = \text{J.D. } 2446028.040 + 6.162491 \cdot E \quad (\text{EB}) \quad (10^{\text{m}}.04 - 10^{\text{m}}.55 / 10^{\text{m}}.33 \text{ ph}) \\ \pm .015 \quad \pm .000019$$

V 450 Her

This star has been known for its variable period since the paper of Geyer (1968). To cover the last years, 367 sky-patrol plates made at Sonneberg Observatory during the years 1962-1983 were used.

A least squares solution of the 11 newly found minima and the visual epoch of minimum given by Brelstaff (1985) has yielded the refined elements:

$$\text{Min. hel.} = \text{J.D. } 2444635.591 + 0.9127152 \cdot E \quad (\text{EA}) \quad (D = 0^{\text{p}}.18) \\ \pm .009 \quad \pm .0000011$$

BV Tau

The 12.349 days period given in the GCVS is doubtful (Kaho, 1958). Extended visual observations made by Brelstaff (1985) showed a 0.93044 day period for this EB-type binary. To confirm Brelstaff's results, the magnitudes on 140 Hartha sky-patrol plates (1959-1977) were derived. Eight new times of minimum were found and a least-squares solution (including the epoch given in Brelstaff's paper) has yielded the improved linear elements:

$$\text{Min. hel.} = \text{J.D. } 2446052.618 + 0.9304536 \cdot E \quad (\text{EB}) \\ \pm .017 \quad \pm .0000023 \quad (11^{\text{m}}.10 - 11^{\text{m}}.95 / 11^{\text{m}}.55 \text{ ph})$$

Further particulars will be published in the Mitteilungen der Bruno-H.-
Bürgel Sternwarte Hartha.

THOMAS BERTHOLD

Bruno-H.-Bürgel Sternwarte

DDR-7302 Hartha

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