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NOVA URSAE MINORIS 1956

(1900.0: RA  $16^{\text{h}}51^{\text{m}}57^{\text{s}}$ , Decl.  $+77^{\circ}12'3''$ )

The star discovered by Satyvaldiev (s. Inf. Bull. on Var. Stars No.18) could be observed on 53 sky-patrol plates between December 28, 1956 and July 19, 1958. Its brightness decreased very slowly with small irregular fluctuations. The mean photographic magnitude was at the end of 1956  $9^{\text{m}}0$ , in the middle of 1957  $9^{\text{m}}5$ , then it dropped somewhat faster to  $11^{\text{m}}0$  in September 1957. At the beginning of 1958 it reached  $12^{\text{m}}0$  and became weaker than  $13^{\text{m}}0$  in May 1958.

I believe Prof. Kukarkin's first assumption in No. 18 of this Bulletin is the most probable. The high galactic latitude ( $+33^{\circ}$ ) is not inconsistent with the assumption that the star is a galactic Nova. Nova Arietis (1854) lies at  $-38^{\circ}$ , Nova T Coronae Borealis even at  $+49^{\circ}$ .

Also the large amplitude has a predecessor. Nova Cygni was before its outburst  $17^{\text{m}}$  and reached  $1^{\text{m}}5$ . Therefore the amplitude of this galactic Nova has been  $15^{\text{m}}5$  or more.

If the star would be a type I Supernova with the absolute magnitude  $-18^{\text{M}}$ , then it must have flashed in a very faint member of the local system. The brightest stars of this galaxy must be fainter than  $-3^{\text{M}}$ . Furthermore a type I Supernova becomes fainter by a half in  $55^{\text{d}}$ . Since the star had  $9^{\text{m}}0$  at the end of 1956, it should have reached about  $16^{\text{m}}$  in the middle of 1958, but it was still about  $13^{\text{m}}$  at this time.

The light-curve observed at Sonneberg resembles the behaviour of Nova Aquilae in the first three months after its eruption. Nova Aquilae became fainter by  $2^{\text{m}}$  in  $200^{\text{d}}$ , Nova Ursae Minoris by  $4^{\text{m}}$  in  $500^{\text{d}}$ , both with small irregular fluctuations. Assuming that the observation of September 24, 1956 does not show the true maximum but the magnitude about  $5^{\text{d}}$  after it, the brightness of the Nova could have

been about  $3^m.5$  near September 19, 1956 - similarly to Nova Aquilae, which was during its maximum about  $5^m.5$  brighter than  $90^d$  later. But this supposed maximum could hardly be observed because full moon happened at September 20, 1956.

Summing up all these reasons I suggest that the Nova Ursae Minoris 1956 was a galactic Nova with somewhat unusual but not impossible position and amplitude.

Further information will be given in the MVS.

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#### A NEW BRIGHT ECLIPSING VARIABLE

BV 412 = BD + 69<sup>o</sup>389 ( $7^m.7$ ) = HD 48049 (A0)

Min = JD 2426350.640 +  $0^d.771345.E$

Details in the Bamberg Publications.

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