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A POSSIBLE VARIABLE STAR NEAR
THE GAMMA RAY BURST SOURCE GBS 0526 - 66

180 sky patrol plates of the years 1934-1938 and 1952-1953 existing in the Sonneberg Observatory archive were examined for optical flashes in the very small error box of the famous gamma ray burst of 5 March 1979 (GB790305). This error box overlaps with the supernova remnant N49 in the Large Magellanic Cloud. The exposure times of the plates range from 30 to 60 minutes giving a limiting magnitude of the plates of $13^m.5$. No optical event in the gamma burst source GBS 0526-66 could be found.

There was, however, a flash-like event on the plate 722 of 17 Dec. 1952 at the position $\alpha_{1950.0} = 5^h 27^m 47^s \pm 4^s$, $\delta_{1950.0} = -66^\circ 06' 45'' \pm 30''$ (on the charts 44V and 42B of Hodge and Wright, The Large Magellanic Cloud, Smithsonian Press, 1967, there are two or three stars at this position which are just separated on the charts but not at all on our plates, cf. Fig. 1). The optical flash reached $\approx 11^m.5$ and the limiting magnitude of the respective plate is $\approx 12^m.5$. The brightness of the possible eruptive star declined

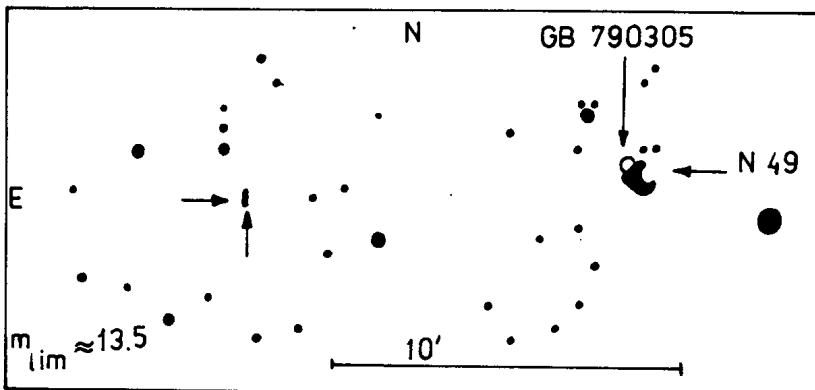


Figure 1. The identification chart of the possible variable star

during the following weeks up to 10 Febr. 1953 to the pre-outburst level of $\approx 13^m$ with some fluctuations superimposed. The star also seems to reach the brightness of $\approx 12.5^m$ on plates of Nov.-Dec. 1937 and Jan.-Feb. 1938.

Unfortunately the photographic brightness of the suspected images is near the limiting magnitude of the plates examined. So we cannot conclude with certainty if the possible variability is real or else caused by a statistical effect of e.g. grain noise.

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