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OPTICAL MONITORING OF TWO X-RAY TRANSIENT SOURCES

1. The X-ray transient pulsar GRO 1008-57

The hard x-ray transient pulsar was detected in 1993 at the 1950.0 position RA = $10^{h}08^{m}02^{s}43$ and $\delta = -58^{\circ}02'45''.2$ (Stollberg et al., 1993, Tanaka 1993).

To analyse its long-time behaviour and/or possible low energy emission, we have investigated the position of GRO 1008-57 on archival patrol plates from the collections of the Sonneberg and Bamberg Observatories. Altogether 218 Sonneberg patrol plates reaching the limiting magnitudes of 12-13 and taken in the years 1935-1953 as well as 125 Bamberg patrol plates reaching limiting magnitudes 13-15 and taken during the time interval 1964-1976, i.e. total of 343 plates representing \sim 310 hrs of exposure have been analysed. No optical activity has been detected from the position of the X-ray pulsar with the above mentioned threshold.

We conclude that the optical emission of the transient pulsar is either an infrequent phenomenon and/or does not reach the limiting magnitudes on corresponding plates.

2. The X-ray Nova GRS 1716-249 = GROJ 1719-24

The X-ray nova in Ophiuchus was detected in 1993 (Ballet et al., 1993) with a radio and optical counterpart exhibiting brightening from 21 to 17.1 mag. (Mirabel et al., 1993). The position of the radio and optical counterpart has been measured as follows (Mirabel et al., 1993): RA = $17^{\rm h}16^{\rm m}32^{\rm s}.52$, $\delta = -24^{\circ}58'01''.1$ (1950.0).

We have analysed this position on archival plates from the collections of the Leiden, Sonneberg and Bamberg Observatories in order to see whether or not this is a repeating phenomenon. We have analysed 552 archival patrol plates from the Sonneberg collection (reaching typical limiting magnitudes of 11 to 13), taken during the time period from 1929 to 1964, 226 Franklin Adams archival plates from the Leiden Observatory collection with typical limiting magnitudes 15.5 - 16.0 taken during the time period 1930-1950 and 146 archival plates taken at the southern stations of the Bamberg Observatory with typical limiting magnitudes of 13 to 15 taken in the years 1963 to 1969, i.e. total of 924 plates representing ~ 720 hrs of exposure. We have not found any sign of optical activity from this position exceeding the corresponding magnitude limit. We conclude that either the object was optically inactive in the time intervals covered by the plates or that the possible brightenings were below the plate threshold.

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