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ON POSSIBLE OPTICAL COUNTERPARTS OF THE  
GAMMA BURST SOURCES GB 790 325 AND GBS 1703 +01

GB 790 325

The position of this source is approximately identical with that of the small-range slowly varying M giant V669 Herculis (= 104 Herculis). Although this coincidence might easily be purely spurious it should be mentioned because obviously it has escaped attention so far.

GBS 1703 +01

Altogether 669 Sonneberg sky patrol plates of the years 1956 to 1983 and 31 plates taken with the 17/120 cm astrographic camera in the years 1932 to 1935 were examined for eruptions in the optical region at the error box of the burst position. The exposure times of the plates range from 30 ... 60 minutes (sky patrol) to 1 ... 3 hours (astrographic camera).

On the plate Te2 7679 of 1974 May 17.981 (middle of exposure time, heliocentric UT) a clearly visible star-like image has been found very near the position of the source. Just like Schaefer's well-known case of GBS 0117 -29 (Nature 294, p.722, 1981) the image differs slightly in shape from "ordinary" stars, the latter being elongated by a small guiding error. The photographic brightness was determined as  $\approx 11.2$  (Mt. Wilson system) by comparing with SA 108, the threshold of the respective plate being  $13.0$ . On a simultaneously taken mpv exposure (limiting magnitude  $\approx 12.0$ ) no sign of any image can be perceived at the given position. It should be noted that both Schaefer's and our object can be explained also as being plate faults. Therefore many more observations are needed.

This work was done under the supervision of Drs. W. Götz and W. Wenzel of Sonneberg Observatory.

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