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OBSERVATION OF THE OPTICAL COUNTERPART OF GRB 970508

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Name of the object:
GRB 970508

Equatorial coordinates:	**Equinox:**
R.A.= $6^h53^m49\overset{s}{.}2$ **DEC.**= $+79°16'19''$	2000.0

Observatory and telescope:
Ostrowik Observatory, 0.6 m Cassegrain

Detector:	Tektronix TK512CB backside illuminated, 512x512 pixels; pixel size is 27 μm, which corresponds to the scale 0.74 arcsec/pixel (Udalski & Pych 1992)

Filter(s):	R (Cousins) and white light

Transformed to a standard system:	UBVRI
Standard stars (field) used:	star at R.A. = $6^h53^m48\overset{s}{.}5$, Decl. = $+79°16'32\overset{''}{.}7$ (2000.0), about $3''$ west and $13''$ north of the GRB 970508, R = 19.70 mag (Schaefer et al. IAU Circ. No. 6658)

Availability of the data:
upon request

Remarks:
The observations were made on five consecutive nights from May 9 to May 13, 1997. The exposure times varied between 420 and 720 seconds, depending on atmospheric conditions and sky transparency. Data reduction have been performed with IRAF, profile photometry has been done using the DAOPhot/Allstar programs (Stetson 1987). Based on observational data from Bond (1997) we identified the optical counterpart of GRB970508 in one of the averaged frames in spite of poor weather conditions. We measured its brightness: R = 19.71 $\pm$ 0.26 mag. This example shows that even small telescopes are suitable for finding such faint objects as optical counterparts of gamma-ray bursts.

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References:

Bond, H.E., 1997, *IAU Circ.*, No. 6654
Stetson, P.B., 1987, *PASP*, **99**, 191
Udalski, A & Pych, W., 1992, *Acta Astron.*, **42**, 285

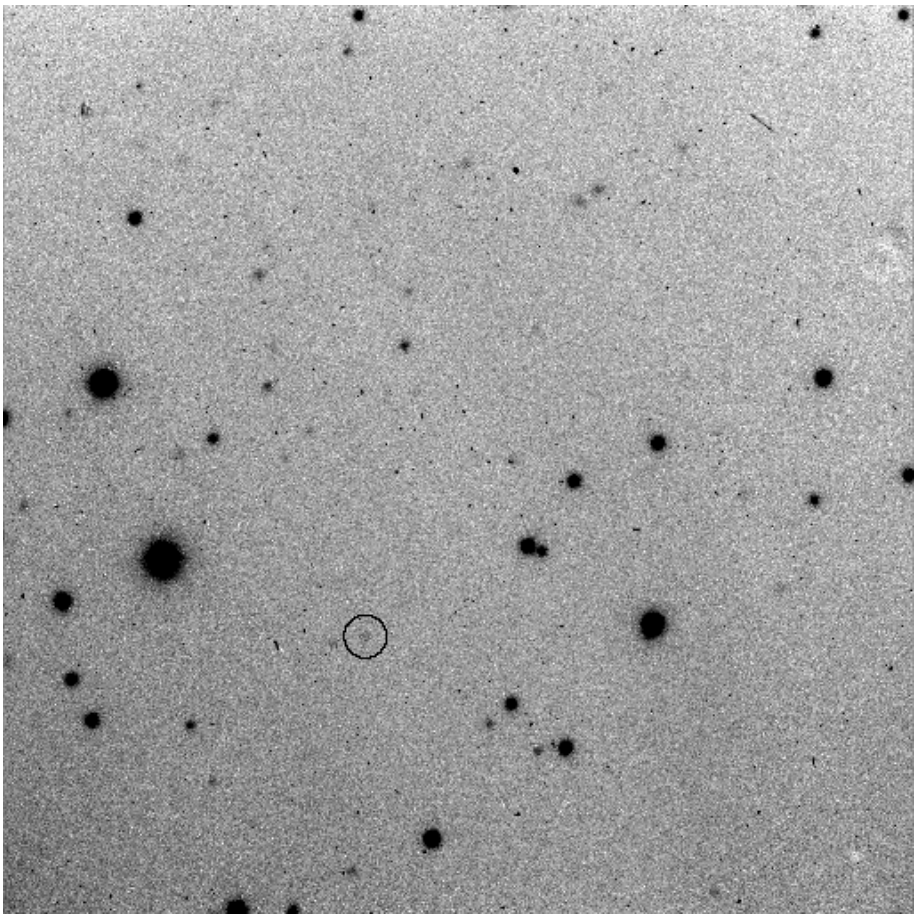

Figure 1.