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NEAR-INFRARED PHOTOMETRY FOR
THE Be STAR MX Per

MX Per (48 Per, HD 25940, B3Vpe, $V_{\text{ini}}=215$ km/s, $M_v=4.02$) is one of the most remarkable Be stars. Both photometric and spectroscopic variations (Jackisch, 1963 and Baliunas et al., 1975) have been reported. We started our near-infrared photometry in 1989 (Guo et al., 1991). Later, in order to investigate the activity and variability of its shell, differential near-infrared photometric observations were carried out in December 1991, January 1992, and December 1993 using the 1.26m infrared telescope at the Beijing Astronomical Observatory. To get the extinction coefficients and the zero-point of the instrument, two infrared photometric standard stars BS 1140 and BS 1641, were used.

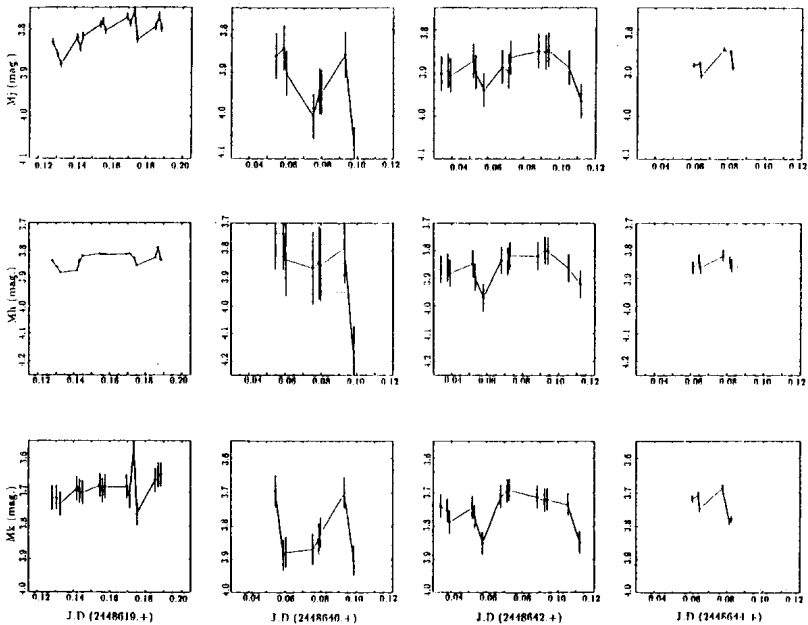


Figure 1. The near infrared photometric results of the peculiar Be star 48 Per in 1991 and 1992

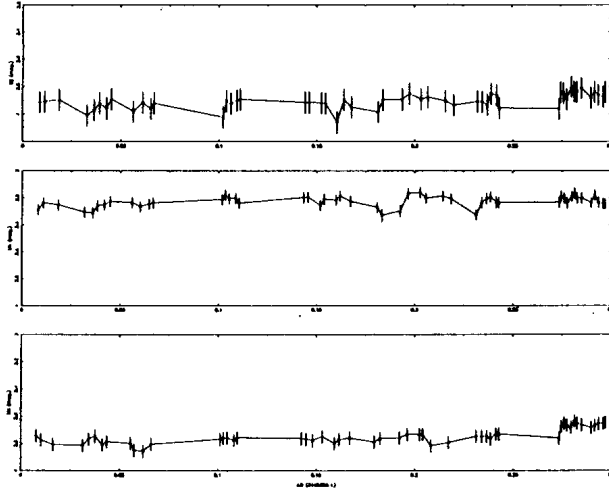


Figure 2. The near infrared photometric results
of the peculiar Be star 48 Per in 1993

Along with MX Per, BS 1140 and BS 1641 were observed many times during the same night. Extinction corrections and transformation into the standard photometric system were performed by using a special software for infrared photometry. The error bars in the Figures represent realistic estimates of observational error.

Our observational results are shown in Figures 1 and 2. It is seen that there were significant rapid variations from 1991 to 1993. As an interpretation, we think that the ionized gas of the circumstellar shell of MX Per was active during our observing run. In order to better understand the character of these variations we should continue to observe the star both in the optical and the infrared.

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