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PANIC Survey of the Galactic Bulge V
The Duration Time of High Mass Loss Phase

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A Near-Infrared survey of the Galactic Bulge have been carried out at the South African Astronomical Observatory, Cape Town with the **PANIC** (**P**tSi **A**stronomical **N**ear **I**nfrared **C**amera) attached on a 40cm f/5 Newtonian telescope. Nine selected regions have been observed repeatedly during April and August from 1995 to 1997 at J and H bands. The limiting magnitudes are 12 mag at J and H for a 100 seconds exposure.

More than 200 Long Period Variable (LPV) stars were found in one of the regions centered on $(l,b)=(0^\circ,-6^\circ)$. The color-magnitude diagram for this region showed a well defined Red Giant Branch (RGB). While most of the LPVs are found at and above the tip of the RGB, some LPVs are scattered in the redder part of the diagram. They are also associated with longer periods and with larger amplitudes. These red LPVs are thought to be in the high mass loss phase. The duration time of high mass loss phase is estimated at 5×10^4 years from the number of these stars compared with a number-duration time relation of the Red Giant Branch stars. However if unidentified IRAS sources, which are certainly losing their mass rapidly, are added to our counts, the duration time of high mass loss phase becomes twice the present value. The Mass Loss Rate of these stars are estimated at $1 \times 10^{-5} M_\odot/\text{year}$ if stars in the Galactic Bulge are assumed to lose $0.5 M_\odot$, about a half of their mass, in the high mass loss phase.