Mem. S.A.It. Vol. 77, 1161

Memorie della

Near infrared survey of the nuclear region of the Milky Way

U.C. Joshi[1], S. Ganesh[1], K.S. Baliyan[1], I.S. Glass[2], and T. Nagata[3]

[1] Physical Research Laboratory Ahmedabad-380 009 India
e-mail: joshi@prl.res.in
[2] SAAO South Africa
[3] Nagoya University Nagoya Japan

Abstract. In the recent past, there have been several NIR surveys,e.g.DENIS(Epchtein et al 1997), 2MASS (Skrutskie et al 1997). Due to poor spatial resolution these surveys suffer from confusion and hence lack in depth in the high number density nuclear regions of the Galaxy. Using DENIS data, Schultheis et al. (1999) prepared a map of the interstellar extinction for the inner Galactic Bulge and reported extinction > 25 with a clumpy, inhomogeneous nature. However, the J band data in DENIS is incomplete in this region of high extinction. A large number of K_S sources do not have counterparts in I & J in DENIS. The situation has not improved much with the availability of 2MASS data. To overcome these problems, and to gain a better understanding of the distribution of stellar populations in the nuclear bulge region, we have carried out a deep imaging survey of this region in J, H & K_S bands with particular emphasis on the fields covered by the ISOGAL survey at 7 and 15μm (Omont et al. 2003). The deep imaging survey in J, H & K_S bands was carried out using IRSF telescope, SAAO, Sutherland during June-July 2002. This survey is about 2.5 magnitude deeper compared to DENIS and 2MASS and is able to detect stars of the red clump at a distance of the Galactic center. The survey covers the inner $\sim 300pc$ of the bulge region within $|\ell| \sim 1.5deg, |b| \sim 0.5deg$ plus a few directions at higer galactic latitude on the minor axis.

Key words.
Galaxy: Milky-way – interstellar extinction — Galactic centre

Send offprint requests to: U. C. Joshi