

**R30a****PANIC Survey of the Galactic Bulge III A Luminosity Function**

松本 茂、中田 好一 (東大理)、I.S.Glass (SAAO)、関口 和寛 (国立天文台)

We have been carrying out a survey of the Galactic Bulge with the PtSi Astronomical Near Infrared Camera (PANIC) on a 40cm F5 Newtonian telescope at the South African Astronomical Observatory (SAAO), Cape Town. We selected nine regions that have been observed repeatedly during G.C. seasons for two years. These regions are centered on  $l=(-5^\circ, 0^\circ, +5^\circ)$   $b=(-6^\circ, 0^\circ, +6^\circ)$  respectively and are each  $3^\circ \times 0^\circ.5$  (RA $\times$ Dec). This is the widest survey of the Galactic Bulge at near infrared wavelengths and it yielded a good luminosity function with a large number of stars brighter than one magnitude below the RGB tip.

The Bulge is an old population which no longer supports star formation, but when it lost this ability is still an interesting problem. Although there are some stars as bright as  $M_{bol}=-5$  in the bulge of M31 and M32, our own galaxy's luminosity function shows a sharp decline at  $M_{bol}=-4.2$  which means that the Bulge stopped star formation a few Gyr earlier than M32 and the bulge of M31. The tip of the RGB is seen in our luminosity function at the same magnitude as the halo of M31 and the globular cluster M5.