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PANIC Survey of the Galactic Bulge II AGB stars

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We are carrying out the survey of the Galactic Bulge with the PtSi Astronomical Near Infrared Camera (PANIC). The Bulge is an old stellar system with a wide range of metallicity. It contains a number of the asymptotic giant branch (AGB) stars observable at the near infrared wavelengths in spite of their large distance. Each of our 9 survey regions contains more than 5000 stars most of which are believed to be the AGB stars in the Bulge. This time we discuss the property of the AGB stars, especially, that of the IRAS sources in the Galactic Bulge.

Low to intermediate mass stars begin to eject their envelopes significantly on the tip of the AGB. Because of the thick dust shell caused by the ejected gas, the star become invisible which are most effectively detected at the mid infrared wavelengths. The surveyed area contains nearly one thousand IRAS sources. They are undergoing a rapid mass loss in the final stage of the AGB evolution. Identification of these IRAS objects with the detected sources by our survey was performed in order to investigate the statistical properties of the rapid mass loss process in the Bulge AGB. We also show the position of these mass-losing stars on the color-magnitude diagrams of our survey.