

N23a Mapping observations of the dust shell of U Antliae with SST/MIPS

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In their fossil dust shells, we have been investigating the mass-loss history of asymptotic giant branch (AGB) stars on time scales of the order of 1,000 – 10,000 years. Using Multiband Imaging Photometer for Spitzer (MIPS) on board Spitzer Space Telescope (SST), we have carried out mapping observations of the dust shell of U Antliae (U Ant) at 70 and 160 microns on 9th and 12th June 2006, as part of the MIRIAD (MIPS Infra-Red Imaging of AGB Dust-shells) project (PI: Angela Speck). The maps measure about 24'x24' and about 24'x3' at 70 and 160 microns, respectively.

U Antliae is a carbon star showing large excess emission in the far-infrared. Izumiura et al. (AA, 323, 449, 1997) show there is an extended dust shell with double shell structure around U Ant, using high resolution IRAS images produced from IRAS survey scan data which were processed for high spatial resolution (HIRAS processor, Bontekoe et al. AA, 284, 1037,1994).

We will show the obtained maps at 70 and 160 microns with Spitzer/MIPS. We examine the structure of the dust shell of U Ant based on the new data set and verify the double shell structure reported for this star by Izumiura et al. (1997). The images should give us an insight into the mass-loss history of U Ant and a hint on the AGB evolution.