

The RMS Survey: Far-Infrared Photometry of Young Massive Stars

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Context: The Red MSX Source (RMS) survey is a multi-wavelength campaign of follow-up observations of a colour-selected sample of candidate massive young stellar objects (MYSOs) in the galactic plane. This survey is returning the largest well-selected sample of MYSOs to date, while identifying other dust contaminant sources with similar mid-infrared colours including a large number of new ultra-compact (UC) HII{} regions.

Aims: To measure the far-infrared (IR) flux, which lies near the peak of the spectral energy distribution (SED) of MYSOs and UCHII{} regions, so that, together with distance information, the luminosity of these sources can be obtained.

Methods: Less than 50% of RMS sources are associated with IRAS point sources with detections at 60 micron and 100 micron, though the vast majority are visible in Spitzer MIPS GAL or IRAS Galaxy Atlas (IGA) images. However, standard aperture photometry is not appropriate for these data due to crowding of sources and strong spatially variable far-IR background emission in the galactic plane. A new technique using a 2-dimensional fit to the background in an annulus around each source is therefore used to obtain far-IR photometry for young RMS sources.

Results: Far-IR fluxes are obtained for a total of 1113 RMS candidates identified as young sources. Of these 734 have flux measurements using IGA 60 micron and 100 micron images and 724 using MIPS GAL 70 micron images, with 345 having measurements in both data sets.

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Comments:

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