

[구IM-09] Revealing old supernova remnants through HI 21-cm line emission

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Most of the old supernova remnant population in the Milky Way has not been identified because of intrinsic faintness and background contamination in both the radio continuum and X-ray emission. We have suggested that the faint, wing-like, HI emission features that extend to velocities beyond the limits allowed by Galactic rotation (Forbidden Velocity Wings; FVWs) in the large HI surveys could represent HI gas accelerated by supernova explosions. We have carried out high-resolution observations of some of these FVWs, and found that many of them could be old SNRs that are too faint to be visible in the radio continuum or by X-rays, but which are nevertheless revealed via their HI emission. We discuss the properties for these SNR candidates. Especially we discuss the newly discovered SNR, FVW173.0+1.5, in detail.

[구IM-10] Properties of dusty cores in the Large Magellanic Cloud.

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We study the characteristics of the HI clouds and filaments and search for the corresponding dusty cores in the Large Magellanic Cloud (LMC) using the ATCA+Parkes Survey and MIPS observations in collaboration with the SAGE team. We investigate the mass spectrum of dusty cores and clouds and perform a direct comparison of observational results to the other studies by dust continuum emission from the star forming regions. We adopt the SED fitting in order to examine physical conditions in these regions. DUSTY and GRASIL models are used for the observed SED fitting. In this study, we suggest that the large dust grains exist across the LMC and emit FIR emission with the dust temperature ranging from 17 K to 26K.