[포IM-13] Distances to molecular clouds using 2MASS photometry.

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In order to provide accurate observational constrains for the cloud and pre-main sequence evolutionary models, it is crucial to measure their properties as accurately as possible. Determination of most of these parameters, however, depends critically on their distances which are highly uncertain and many cases unknown. In order to determine the distances to molecular clouds, we developed a scheme which utilizes the 2MASS photometry data. The application of this scheme on determination of distances to a number of clouds would be presented in the poster.

[박IM-14] An Infrared Study of Supernova Remnants Using the Spitzer and AKARI Space Telescopes

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Supernova remnants play an important role in the dynamical and chemical evolution of interstellar medium. They supply enormous energy and heavy elements to the interstellar space and complete the circulation of matter which started from the star formation. The most effective cooling of supernova remnant occurs by the thermal dust emitted at the infrared wavelength. Thus the infrared observation is useful to study the dust physics, characteristic of supernova remnant and evolution of interstellar medium. In this talk, we present the results of infrared observations of supernova remnants using the Spitzer and AKARI space telescopes.

We have searched for infrared emission from supernova remnants included in the Spitzer inner Galactic plane survey. Based on the mid-infrared detection, we make a follow-up near-infrared [Fe II] and H2 line imaging and spectroscopic observations of 3C 396 using the Palomar 5 m Hale telescope. We have carried out the infrared observations of young core-collapse supernova remnants using the AKARI space telescope. We present the results of AKARI infrared imaging and spectroscopic observations of the oxygen-rich supernova remnant G292.0+1.8 covering 2.7-27 um and 50-180 um.