[포SF-05] The AKARI Survey of Starless Cores

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We report a preliminary result of the AKARI survey for eight "starless" cores. This survey was to find any faint object embedded in starless cores which have never been detected with the IRAS. The observations were made with two image detectors IRC and FIS to obtain infrared pictures from 2.4 to 160 micron.

Combining existing data from 2MASS (J: 1.25㎛, H: 1.65㎛, Ks: 2.17㎛) and SCUBA (450, 850㎛), we measured the bolometric luminosities of the point sources and tried to find very red faint sources to be fainter than 0.3L⊙, suggesting that their internal luminosities can be even smaller.

We will discuss on what the identities of the faint sources are, how star forming activity in the cores is going on, and how it is related to the chemical and dynamical properties of their parent cores.

[포SF-06] Gaseous Motions in Dense Starless Cores

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Dominant motion in dense (n > 104 cm-2) starless cores is known to be inward motions from a statistical study using a single pointing molecular line data of optically thin and thick tracers such as CS(2-1) and N2H+(1-0). However, mapping data often show very different or complex distribution of the spectral asymmetry from what is seen toward the central region of the cores. Therefore a detailed investigation of mapped molecular line profile data is important to know which kind of asymmetric profiles are the most typical and thus which kind of motions are dominant. In the poster, by combining all existing data either published CS(2-1) and N2H+(1-0) profiles from FCRAO 14m or newly observed CS(3-2) and DCO+(2-1) profiles from NRAO 12m for more than 20 starless cores, we will present the spectral analysis for the asymmetric patterns of these whole profiles to understand which pattern of profiles or what kind of motion is most significant in dense starless cores.