[구SF-01] AKARI Observations for 8 dense molecular cores

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We present results of AKARI observations toward 8 dense molecular cores which are previously known to be "starless". These cores show some spectral features which may imply characteristic internal motions. The observations were carried out at 8 bands (3, 4, 7, 11, 65, 90, 140, and 160 micron) with IRC and FIS instruments equipped in the AKARI. The archive data of 2MASS and Spitzer were also utilized. We found that 1 (L1582A) of 8 cores has a few embedded young stellar objects (YSOs) while the rest of them are still starless. The YSOs found in L1582A are identified by the slope of the spectral energy distribution or by the AKARI color-color diagram. The unusually broad linewidth toward L1582A, which is twice broader than one of starless cores, is also consistent with the existence of protostars in this core. The physical environment and evolution of the other "starless" cores where any AKARI point source is not detected will be discussed with help of their molecular line observations.

[구SF-02] Near-IR Polarimetry Survey of the Large Magellanic Cloud : Relationship between the polarization degree and the color

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We performed near-IR imaging polarimetry of the 5 x 9 fields (~39´ x 69´) around 30 Doradus in the Large Magellanic Cloud (LMC), using the InfraRed Survey Facility (IRSF). We obtained polarimetry data in the J, H, and Ks bands using the JHKs-simultaneous imaging polarimeter SIRPOL in 2008 December and 2011 December. With the reliable LMC field data which were selected using a bad-data-rejection algorithm, we measured Stokes parameters of point-like sources to derive the degree of polarization and the polarization position angle. We present physical relationship between the three bands using the photometric and the polarimetric properties of the sources.