[포IM-11] Small group of protostellar objects: L1251C

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We present molecular line observations of a small group of Young Stellar Objects (YSOs), L1251C. Observations by *Spitzer Space Telescope* legacy program "From Molecular Cores to Planet Forming Disks"(c2d; Evans et al. 2003) revealed that there are three YSOs within ~15″ in L1251C: IRS1 (Class I), IRS2 (Class II), and IRS3 (Class II). In order to understand the molecular environment around these YSOs, we carried out the KVN single-dish observations in HCO^+ *J=1-0,* $H^{13}CO^+$ *J=1-0*, N_2H^+ *J=1-0* and HCN *J=1-0.* CO *J=1-0* was also mapped in L1251C with the TRAO 14m telescope. Integrated intensity maps of high density tracers such as $H^{13}CO^+$ *J=1-0*, N_2H^+ *J=1-0* and HCN *J=1-0* show similar emission distributions, whose peaks are off from the positions of YSOs. However, HCO^+ *J=1-0*, which is believed to trace both infall and outflow, presents its emission distribution different from those of other molecular transitions. The line profile of HCO^+ *J=1-0* is superimposed by two velocity (narrow and broad) components. The HCO^+ outflow map reveals multiple structures while the CO outflow map elongates mainly along the EW direction. With the KVN single dish, the 22 GHz H_2O maser emission has been also monitored toward L1251C to find variations of the systemic velocity and intensity with time.

[포IM-12] Outflow properties of DIGIT embedded sources

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We present observational results of CO outflows towards 24 embedded young stellar objects (YSOs), which are selected from the targets of the Herschel key program, "Dust, Ice, and Gas in Time" (DIGIT). Molecular outflow activity, which is believed to have strong dependence on accretion process, is the most powerful in the early embedded phase of star formation and declines as the central protostars evolve to the main sequence stage. In order to study the relation between the CO outflows observed in low J transitions and the properties of protostars, we mapped the CO outflows of the selected targets in J=1-0 and J=2-1 with the 14-m TRAO telescope and the 6-m SRAO telescope, respectively. We also compare the CO outflow momentum fluxes with the FIR molecular line luminosities of CO, H_2O, OH, and OI, which were detected by the Herschel-PACS observations.