[P-002/IM-1] The RAFBS 12CO Survey in the Northern hemisphere

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We have selected ~500 red sources (RAFBS) from AKARI/FIS All-Sky Survey Bright Source Catalogue in northern hemisphere to find candidates of massive young stellar objects (MYSOs) in the very early evolutionary stage. We are carrying out 12CO J=2-1 sub-mm radio observations with 6m SRAO radio telescope in order to in order to determine kinematic distances to all of our MYSO candidates. These distances will be used in combination with far-IR and (sub)millimetre fluxes to determine bolometric luminosities which will allow us to identify and remove nearby low-mass YSOs. In addition these molecular line observations will help in identifying evolved stars which are weak CO emitters. We detect 12CO emission towards a total of 494 of 517 RAFBS sources observed (95%). Single emission profiles are observed towards the ~40% of these sources. Using the rotation curve of Brand & Blitz (1993) and their radial velocities we calculate kinematic distances for all components detected. The 305 sources of multiple emission features for which we have not been able to determine the kinematic velocity will require additional line data.

[P-003/IM-2] FUV observation of Taurus molecular cloud(TMC) Region

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We present the H2 fluorescent emission map in the far-ultraviolet (FUV) waveband. The map reveals the spatial distribution of H2 molecules around the Taurus Molecular Cloud (TMC), which is known for one of the nearby star-forming region.

The physical properties were reported for the cloud's core and the halo from the previous FUV research. The contour map of CO emission is overplotted to our H2 emission map to visualize the spatial distribution of the cloud.

The H2 intensity is enhanced toward cloud's halo while the significant portion of

emission seems to be blocked toward cloud's core. With the help of model expectation, the estimated intensity can be converted with the hydrogen density for these regions.

The data were taken from the Far-Ultraviolet Imaging Spectrograph (FIMS) and

the model was adopted from the CLOUD, a plane-parallel H2 model program for photodissociation region(PDR).