[포IM-07] Far-ultraviolet Observations of the Taurus Molecular Cloud(TMC) Region with FIMS

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

[구IM-08] I-GALFA: The Inner-Galaxy ALFA Low-Latitude HI Survey

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The I-GALFA survey is mapping HI 21 cm emission in the inner parts of our Milky Way Galaxy using the Arecibo L-band Feed Array (ALFA), the 7-beam receiver installed at the Arecibo 305-m telescope. I-GALFA will produce fully sampled maps of the area within 10 degrees of the Galactic plane from l=30 to 80 deg with a 3.4-arcmin beam and 0.184 km/s channels covering an LSR velocity range of -700 to +700 km/s. Its nticiicied full-resolution, empty-field noise is T_{rms} = 0.25 K. I-GALFA complements the large synthesis array surveys with higher resolution -re less sensitivity and latitude coverage, and also complements othercovngle-dish surveys with more sky coverage -re lower angular resolution. The survey star star May 2008 and will fr ish r September 2009. Among I-GALFA's targets of r strest are cold atomic gas in and outside star-forming molecular clouds, faint high-velocity HI emission associated with old, hidden supernovae, shells and chimneys produced by star formation and disk-halo energetics, and stochastic filamentary structure from turbulent energy cascades and magnetic fields. We will present summary images from the survey and a selection of early scientific results.