Detection of the fluorescent emission of hydrogen in the Taurus cloud

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We detected and analyzed molecular hydrogen fluorescence in the Taurus Cloud using the Far-ultraviolet Imaging Spectrograph (FIMS) on the STSAT-1 which was launched at Sep. 27 2003. FIMS is optimized for observing diffuse emission lines in the interstellar medium in the wavelength bands of 900~1150 and 1300~1700 angstrom. The Taurus region is a local molecular cloud which is good for studying molecular hydrogen fluorescence emissions. Molecular hydrogen fluorescence emission occurs when H2 molecules absorb FUV photons from nearby sources to be excited to upper electronic levels and emit cascade FUV and IR photons spontaneously. By analyzing the absolute and relative H2 fluorescence emission intensities, we can diagnose the physical conditions of the molecular cloud in the Taurus region.