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Cores in Clumps - An ALMA view of a forming massive cluster

YU CHENG, JONATHAN TAN, University of Florida, SHUO KONG, Yale University, MENGYAO LIU, University of Florida — The formation of stars in clusters is a central problem in the study of star formation and several fundamental questions are still debated, including the timescale and efficiency. The formation and early evolution of clusters involves the interplay of fragmentation from turbulent motions and gravity, dynamical motions of young stars, and the feedback from the young stars. Observationally, spatial, kinematic and mass distribution properties of cores in a protocluster can help constrain different theoretical models. We map the massive protocluster G286.21+0.17 with ALMA in the 1.3 mm band to study its gas and dust structures. And here we present a preliminary analysis of the data, including a study of the core mass function within the cluster.

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