DENSE MOLECULAR GAS IN A YOUNG CLUSTER AROUND MWC1080 – OBSERVATIONAL EVIDENCE FOR CLOUD SHREDDING

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We present BIMA millimeter interferometric observations (B and C array) in the CS(2-1), ^{13}CO(1-0), and C^{18}O(1-0) transitions toward the cluster forming environment around the massive star, MWC 1080. The dense gas traced by these transitions shows a clumpy structure surrounding a biconical cavity. This indicates previous outflow activities that have shred the natal cloud and help revealed young cluster members. In addition, the velocity distribution throughout the gas suggests a role of turbulent motions on the cluster formation. This study helps understand the ongoing star formation and gas dispersal within a young cluster and the kinematics within a turbulent star-forming cloud.