STAR FORMATION IN A SMALL CLUSTER: PROBING THE DENSE GAS IN BD +40 4124

M. HAMIDOUCHE, L. W. LOONEY, S. WANG, *Dept. of Astronomy, University of Illinois at Urbana-Champaign, 1002 W Green st, MC-221, Urbana, IL 61801*; and L. A. HILLENBRAND, *Dept. of Astronomy, California Institute of Technology, MS 105-24, Pasadena, CA 91125*.

We present observations of the dense molecular gas associated with the Herbig Be star BD +40 4124. With the highest resolution imaging of the dense gas in the system to date, we detect several gas clumps that are associated with young stars and have estimated masses of around 1 solar mass. The strongest emission peak coincides with the position of the southern component of the binary V1318 Cyg, which suggests that this source is perhaps the youngest in the cluster. The compact dust emission, although closer to the southern component, is also extended in the direction of the northern source. Owing to the high spectral resolution, we confirm the suggestion that there is a gradient in linewidth along the north-south direction.