A High Spatial Resolution Comparison of Dust and Molecular Gas in the 1,1448 Star Forming Core

Susan Terebey
IPAC, Caltech/JPL

A multi-wavelength high-spatial resolution study of low-mass star formation in the central one arcminute of the 1,1448 dense core reveals very different structure in the different tracers. The c180 interferometer map shows two distinct and extended subcondensations about. 25'' (7500 AU) apart. The 3 millimeter dust continuum, which is sensitive to circumstellar disks, detects a massive disk toward one of the C1 80 condensations. This source also has weak VLA continuum, H2O masers, and no near-infrared counterpart indicating the embedded star is very young. By contrast, the other c180 condensation shows a bright reflection nebula but no other signposts of activity. 'l'his suggests the second source is less deeply embedded and therefore probably older. Apparently close proximity inside the dense cloud core does not guarantee that star formation is coeval on a few x IO*5 yr time scales.