

A possible OB protostar associated with the molecular outflow in G34.4

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The most conspicuous massive molecular outflow candidate identified in our CS(2-1) survey of UC HII regions (Bronfman et al 1996) is G34.4 (IRAS 18507+0121) in the I Galactic quadrant. At a distance of 3.8 kpc, it is near (about 11') the very bright HII region G34.3 (Carral & Welch 1992), embedded in the same GMC with a VLSR of 57 km/s. The CS velocity profile obtained with SEST shows very broad wings, about 25 km/s wide at the 0.1 K level, indicating strong outflow activity. Near infrared images of the field, 90'' in size (0.35'' per pixel), obtained with the du Pont 100'' Telescope at Las Campanas, show a remarkably reddened source visible only in the K' filter, elongated in shape, about 15'' in extent. We have recently observed the G34.4 region, using the OVRO array, in the 3 mm continuum band and in the $H^{13}CO^+$ line, at a resolution of 5''. Most of the $H^{13}CO^+$ flux (33.64 Jy) comes from two strong cores; while one of these cores is closely associated with the ! NIR source, the other one is associated with a single, unresolved continuum source that has a total flux of 56.8 mJy. The mass of gas and dust in this second, possibly "star-less" core is estimated from the millimeter continuum to be approximately 355 M_{\odot} , consistent with the presence of a massive, embedded OB protostar.

Abstract submitted for Science with the Atacama Large Millimeter Array, 6 – 8 October 1999, Washington, D. C.