

Poster: Chasing Discs around O-type (proto)stars: ALMA evidence for an SiO disc and disc wind from G17.64+0.16

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G17.64+0.16 is a massive young stellar object targeted by ALMA as part of a small survey of O-type (proto) stars in search of circumstellar discs. In both mm continuum and line emission G17.64+0.16 is isolated from other strong sources. The typical 'disc' tracers, such as CH₃CN do not show evidence of rotation, but instead are more indicative of a wide and flow, coincident also with CO and CH₃OH emission. Instead compact SiO emission within the central 500au is marginally resolved but with a position angle consistent with a disc interpretation. Using parametric models the SiO emission is consistent with emission from a small (<200au radius) disc with Keplerian rotation around a 10-30Mo star in combination with a radial expansion from the disc surface, integrated as a wind. Combined with the detection of the H₃0 α recombination line, association with compact radio emission, G17.64+0.16 appears to be at the later stages of formation and beginning to form a Hyper Compact HII region. This O-type YSO appears to have formed from disc accretion, although its detection could be related only to its isolation and more evolved nature.

Outflows and Disks