

Modeling of a unique accretion disk around a high-mass protostar

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In the last years, large rotating structures (>1000 au) have been found around massive protostars. They seem to exhibit velocity gradients perpendicular to the outflows, but it is unclear if these large scale structures are real accretion disks. Recent ALMA observations resolve a compact ($R \sim 200$ au) flattened structure clearly perpendicular to the jet emanating from a young high-mass protostar, making it a robust candidate for a true accretion disk. The whole jet/disk system resembles those found in association with low and intermediate mass protostars. I will present radiative transfer models that fit the images of this disk and allow us to obtain its physical parameters. Our results suggest that the infalling envelope, in addition to the stellar luminosity and viscous dissipation, play an important role in the heating of this disk.

Outflow Disks