

ALMA High Resolution Observations of GW Ori

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We report the results of high spatial resolution observations of GW Ori. This is a hierarchical triple system at a distance of ~ 402 pc. Two of the stars (2.7 Msun and 1.7 Msun) compose a spectroscopic binary with a separation of ~ 1 AU. A tertiary component (0.9 Msun) was detected by near-infrared interferometry at a projected distance of ~ 8 AU. The system harbours a circumtriple protoplanetary disk with dust extending to ~ 400 AU and with gas extending to ~ 1300 AU. We observe the disk with dust continuum emission and with CO isotope lines. We discover three dust rings in the disk, which have different inclinations and centers. Both dust and gas emission strongly indicate that the disk has misaligned parts, and the dust emission suggests that the innermost dust ring is eccentric. We interpret these as evidence of ongoing dynamical interactions between the triple stars and the circumtriple disk. This presentation is based on the submitted paper by Bi, van der Marel, Dong, Muto, Martin, Smallwood, Hashimoto, Liu, Nomura, Hasegawa, Takami, Konishi, Momose, Kanagawa, Kataoka, Ono, Sitko, Takahashi, Tomida and Tsukagoshi.

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