
Seminario

Jueves 14 de junio, 2018, 12 hrs (PST), Auditorio IA-Ensenada

The ALMA view of the explosive outflow in Orion KL: Relics from a violent protostellar merger?



Mérito: NASA

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In this talk, I will show the recent results obtained in deep ALMA observations of the explosive outflow located in the heart of the Orion Nebula, the Orion Kleinmann-Low Nebula (Orion KL). These observations revealed over a hundred arcsecond wide and tens of arcseconds long high-velocity ^{12}CO ($J=2-1$) streamers that approximately point to a central region where a young stellar massive system disintegrated about 500 yrs. The kinematics and morphology of the molecular streamers confirmed the explosive nature of the outflow in Orion KL. The energetics of the explosive outflow require the formation of a binary with an AU-scale or smaller semi-major axis. This event may have led to stellar merger which powered the explosion in the gas. Finally, I will show the latest efforts to reveal more cases where possible mergers events could led explosive outflows like the one in Orion KL.