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The ALMA view of the eruptive protobinary Haro 5a IRS (12+3)

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FUors are young stellar objects characterized by a sudden increase in accretion rate, followed by a slower decline in brightness. Eruptive young stars can sometimes be accompanied by bipolar molecular outflows which can significantly alter the system's environment. Additionally, these energetic processes might represent an important factor in clearing out the environment of the protostar, thus playing a role in advancing the system from Class I to Class II. Here I present the results from our ALMA observations of Haro 5a IRS, a FUor-like protobinary system located in the Orion Star Forming Region. Our work focuses on the ^{12}CO and ^{13}CO detections of two bipolar molecular outflows emanating from the system, and their interactions with the surrounding environment. We measure the geometrical properties of the outflows, and estimate their physical properties which we put into context by comparing them with other protostellar outflows. Finally, I present our C^{18}O observations and the kinematic analysis of the system, including the gas in each disk and in their immediate circumbinary environment, which shows traces of infalling material.

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