

Poster: Carinas Pillars of Destruction: the view from ALMA

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Massive stars cause strong feedback onto their natal environments, and shape its future ability to make further stars. They inject enormous amounts of energy and turbulence into their surroundings, and create or reveal dense pillars of gas and dust towards the edges of the cavities they clear. The shapes of these pillars are well reproduced in many different kinds of feedback models, but their internal structures vary significantly from model to model. Here we present the first ALMA survey focusing on the internal dynamics of 13 pillars which are being shaped by the high-mass stars in the Carina nebula. We will present our $^{12}\text{CO}/^{13}\text{CO}/\text{C}^{18}\text{O}$ and 1.3 mm continuum observations in the context of our optical and IR observations of these regions: showing the transition from irradiated outer layers, through the PDR and into the velocity structures of the molecular cores of (and within) these pillars.

Molecular Clouds