

Irradiated Interfaces in the Carina and Cyg OB2 Massive Star Formation Regions

P. Hartigan¹

¹Rice University

March 22, 2012

Abstract

Regions of massive star formation offer some of the best and most easily observed examples of radiation hydrodynamics. The boundary where the fully ionized HII region transitions to the neutral/molecular photodissociation region is of particular interest because the marked temperature and density contrasts across the boundary lead to evaporative flows and fluid dynamical instabilities that can develop into spectacular pillar-like structures, which when detached from their parent clouds become ionized globules that often harbor a young star at their core. Recent large-scale infrared cameras have made it possible to peer through the dust and observe how these interfaces behave in various emission lines. This poster will summarize the results from two famous regions of massive star formation. The structure in these regions is spectacular and more intricate than more well-studied regions such as the Eagle Nebula and Orion. Observations such as these help motivate the next generation of laboratory experiments of this physical process.