

Beads, Knots, and Gems: The Role of Swallowtails and Caustics in Triggering Star Formation in Interacting Galaxies

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Interacting galaxies exhibit a wide variety of exotic star forming environments that typically are not seen in isolated galaxies. We use both analytical models and numerical simulations to understand these structures, comparing with multi-wavelength images for a set of nearby strongly interacting galaxies. In this talk, I will discuss the role that caustics (narrow pile-up zones caused by orbit-crowding) and swallowtails (intersecting caustics) play in triggering star formation in interacting systems. These models can be tested with high spatial resolution images from the Hubble Space Telescope.