

The Sites and Triggers of Star Formation in Large Disk Galaxies Since $z=1$.

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Scientific Category: UNRESOLVED STELLAR POPULATIONS

Scientific Keywords: SPIRAL GALAXIES, STAR FORMATION, GALAXY FORMATION AND EVOLUTION, HUBBLE DEEP FIELDS, IR-LUMINOUS GALAXIES

Total Budget Amount: \$53,000 (half postdoc, travel, publ., computer)

Abstract

Luminous Infrared Galaxies (LIRGs) are the sites of significant, dusty star formation out to $z=1$. Above $z=0.5$, roughly half of all LIRGS exhibit undisturbed spiral morphology. Today LIRGS are dominated by merging (peculiar) systems and spiral LIRGS are exceedingly rare. Thus the star formation rate of large spirals appears to have evolved over that time. We have identified populations of both LIRG and normal disks in the GOODS and GEMS Hubble Treasury Fields (Melbourne et al. 2005), and propose to study the stellar populations of their substructures to identify both the major sites and triggers of star formation in large disk galaxies to $z=1$. To accomplish this, we will combine the high resolution optical HST data with equally high resolution near infrared imaging from Keck adaptive optics to measure the stellar populations of the substructures in LIRG and non-LIRG disks.

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