



Physically Consistent Galaxy Stellar Masses and Star Formation Rates From $z=0$ to $z=10$ HST Proposal 15631

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Cycle: 26

Category: Galaxies and the IGM

Proposal type: AR

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Proposal Abstract

We propose a forward modeling approach that will self-consistently combine multi-epoch and multi-waveband data and reduce uncertainties in recovering galaxy stellar masses and star formation rates from current ~ 0.35 dex levels to the 0.15 dex level or less, benefiting both observers and theorists. Key outcomes include: a fully physical, self-consistent picture of galaxy stellar masses and star formation histories from $z=0$ to 10; significantly reduced uncertainties on the evolution of galaxies in dark matter halos; mock catalogs for arbitrary current and future surveys that simultaneously match currently observed galaxy number densities, colors, and clustering; and public code to enable easy incorporation of future datasets as they become available.;

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