Abstract Submitted
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Characterizing the Stellar Halo of M83[1] MICHAEL BUSCH, Arizona State University, ERIC BELL, SARAH LOEBMAN, IAN ROEDERER, University of Michigan, GHOSTS TEAM[2] — Cosmological simulations of ΛCDM predict a hierarchical Galactic formation by the accretion of smaller satellite galaxies onto the main galactic plane. We observe far fewer satellite galaxies (˜20) in the stellar halo in the Local Group than predicted by ΛCDM (˜500). The GHOSTS (Galaxy Halos, Outer disks, Substructure, Thick disks and Star clusters) survey is the largest study of stellar populations in the stellar halos of 16 nearby disk galaxies using the Advanced Camera for Surveys (ACS) aboard the Hubble Space Telescope (HST). Additionally, the Subaru Telescope on Mauna Kea is a ground-based telescope capable of providing a wide-field survey of the stellar halo. This work characterizes the stellar halo of M83, a Milky Way type galaxy at a distance of ˜5 Mpc. We present early results on a method to use GHOSTS as a targeting survey to calibrate Subaru data, using Stellar Locus Regression to calculate color-color cuts and star-galaxy separation in Subaru data. This allows for a deep imaging survey to probe most of the stellar halo of M83. The goal is to characterize the stellar populations, specifically Red Giant Branch (RGB) stars, as they are tracers of the underlying galactic formation.

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[2]Galaxy Halos, Outer disks, Substructure, Thick disks and Star clusters

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