Abstract Submitted
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The Nature of Compact Stellar Systems in Massive Galaxy Clusters Using the Hubble Frontier Fields[1] JEREMY HA, San Dieguito Academy High School, Encinitas, CA, United States, MAHIR ARORA, Brentwood College School, Mill Bay, British Columbia, Canada, JUSTIN BARBER, ELISA TOLOBA, GUILLERMO BARRO, University of the Pacific, Stockton, CA, United States, PURAGRA GUHATHAKURTA, University of California Santa Cruz, Santa Cruz, CA, United States — We present a study of globular clusters (GCs) in the Hubble Frontier Field cluster Abell 2744 (Pandora's cluster) located at z˜0.31. Our goal is to use compact stellar systems, GCs, as fossil records of the interactions that shaped Pandora's cluster and the galaxies in it to gain new insight into cluster formation processes. We use the publicly available point-source catalogs published by Livermore et al. (2017) and Shipley et al. (2018). These two teams made catalogs from the deepest photometrical images obtained after stacking multiwavelength cleaned images; thus the detection is performed with the lowest spatial resolution. We are generating a single-band point-source catalog in F814W, where the spatial resolution is significantly higher. Although our detection cannot go as deep as Shipley et al. and Livermore et al., we have better control of the removal of stellar light, specifically around the centers of galaxies. Preliminary analysis shows that the Shipley et al. catalog lacks a large number of faint point sources, while the Livermore et al. catalog contains more sources as well as instrumental artifacts and spurious sources. We are combining these catalogs with our own with the aim of obtaining the most complete sample of GCs in Abell 2744.

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