

Abstract Submitted
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X-ray Follow-Up to Dark Energy Survey Year 3 Galaxy Clusters

ALLISON SWART, University of California, Santa Cruz — Dark energy has important implications for the history and future of our universe, but not much of its nature is understood. One way to place constraints on the dark energy equation of state is to examine the properties of galaxy clusters, which can be done by large-scale surveys and related follow-ups. In this research, I performed an X-ray follow-up to galaxy clusters selected optically by the Dark Energy Survey. X-ray follow-ups offer a check on aspects of optical cluster selection such as centering and help calibrate cluster mass through mass proxies like X-ray temperature and luminosity. During analysis, I identified remarkable cluster components such as center galaxies and cluster mergers and performed checks on the X-ray analysis pipeline MATCha (Mass Analysis Tool for Chandra) in contribution to the constraint of dark energy.

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