

Abstract Submitted  
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**Stellar Streams Discovered in the Dark Energy Survey** NORA SHIPP, Univ of Chicago, ALEX DRILICA-WAGNER, Fermilab, DARK ENERGY SURVEY COLLABORATION — We perform a search for stellar streams around the Milky Way using the first three years of multi-band optical imaging data from the Dark Energy Survey (DES). We use DES data covering  $\sim 5000$  sq. deg. to a depth of  $g > 23.5$  with a relative photometric calibration uncertainty of  $< 1\%$ . This data set yields unprecedented sensitivity to the stellar density field in the southern celestial hemisphere, enabling the detection of faint stellar streams to a heliocentric distance of  $\sim 50$  kpc. We search for stellar streams using a matched-filter in color-magnitude space derived from a synthetic isochrone of an old, metal-poor stellar population. We report the discovery of eleven new stellar streams. In general, these streams are fainter, more distant, and lower surface brightness than streams detected by similar techniques in previous photometric surveys. As a by-product of our stellar stream search, we find evidence for extra-tidal stellar structure associated with four globular clusters: NGC 288, NGC 1261, NGC 1851, and NGC 1904. The ever-growing sample of stellar streams will provide insight into the formation of the Galactic stellar halo, the Milky Way gravitational potential, as well as the large- and small-scale distribution of dark matter around the Milky Way.

Nora Shipp  
Univ of Chicago

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