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Abstract for an Invited Paper for the APR18 Meeting of the American Physical Society

Mapping the Cosmos with the Dark Energy Survey: Y1 and Beyond CHIHWAY CHANG, KICP

The first year data from the Dark Energy Survey (DES Y1) provides the most powerful optical survey dataset to date. In this talk I will first give an overall summary of the cosmology results from the DES Y1 dataset combining galaxy clustering and weak gravitational lensing. Next, I will describe our work in generating and testing the wide-field weak lensing mass maps from the galaxy shape measurements and some exciting applications for the maps. The maps provide complementary information compared to conventional 2-point measurements in cosmology. The methodology developed in this work will be applied to future DES datasets on the full 5000 square degree footprint.