

Abstract Submitted
for the APR15 Meeting of
The American Physical Society

Galaxy Clustering in the Dark Energy Survey Science Verification Data ASHLEY ROSS, CCAPP, MARTIN CROCCE, Institut de Ciències de l'Espai (IEEC-CSIC), THE DARK ENERGY SURVEY LARGE SCALE STRUCTURE WORKING GROUP COLLABORATION — I present the results of a study of galaxy clustering in a flux-limited sample ($i_{AB} < 22.5$) selected from the photometric Science Verification (SV) data of the Dark Energy Survey (DES), conducted by the DES large scale structure working group. The SV data provides science-quality images for more than 250 deg^2 at the nominal DES depth ($i_{AB} \approx 24$). I will present the clustering analysis of this data, performed over five tomographic bins, with photometric redshifts, z , in the range $0.2 \leq z \leq 1.2$. I will describe our work to identify and ameliorate systematics in the data set, which has allowed us to robustly measure the clustering amplitude of the galaxies in each tomographic bin. We test the relationship between the clustering of the galaxies and analytic predictions of the clustering of the dark matter, known as the bias relationship and determine the regime where it is described by a linear model I will present these results and compare them against a similar sample from the (previously) state-of-the-art CFHTLS, with which we find very good agreement. These results pave the way for exciting cosmological measurements to be made with future (larger) DES data sets and by combining the results with other probes such as CMB lensing and galaxy-galaxy lensing.

Ashley Ross
CCAPP

Date submitted: 09 Jan 2015

Electronic form version 1.4