

Abstract Submitted  
for the OSS12 Meeting of  
The American Physical Society

**The effects of Improved Photometric Redshifts of Luminous Red Galaxies from SDSS in a Three-Point Galaxy Correlation Function** ASHLEY PARKER, Marietta College, DEBORAH BARD, Stanford University, ANN BRAGG, Marietta College — This research seeks to examine the implications of improved photometric redshift determinations when they are used in a three dimensional galaxy correlation function. We utilized the toolkit for multivariate analysis (TMVA) to determine photometric redshifts with improved accuracy for 45,399 Luminous Red Galaxies (LRG) from Data Release 8 (DR8) of the Sloan Digital Sky Survey (SDSS) with redshifts of  $z < 0.87$  lying in a contiguous area of sky. The current SDSS photometric redshift determination method does not discriminate between blended and non-blended data when it determines the photometric redshift of a given galaxy. Considerably more accurate photometric redshift determinations were found, for the case of the blended and non-blended galaxies being treated separately. Photometric redshifts produced using this improved method are hypothesized to lead to increased accuracy of the galaxy correlation function.

Cavendish McKay  
Marietta College

Date submitted: 15 Mar 2012

Electronic form version 1.4