



Contribution ID: 47

Type: **not specified**

Angular Clustering in Photometric Surveys: a new window for redshift distortions.

Wednesday, April 20, 2011 3:30 PM (20 minutes)

Near future cosmology will see the advent of wide area photometric galaxy surveys, such as the DES, PanSTARRS and LSST that extent to high redshifts ($z \sim 2$) but with poor radial distance resolution. In such cases splitting the data into redshift bins and looking at angular clustering will become the standard approach to extract cosmological information or

to study the nature of dark energy through the Baryon Acoustic Oscillations (BAO) probe. In this talk I will present a comprehensive model for this clustering signal at large angular scales as a function of redshift and bin width, including all relevant effects, namely nonlinear gravitational clustering, bias, redshift space distortions and photo- z uncertainties. We also discuss, and test against simulations, a model for the full covariance matrix characterizing the angular correlation measurements. One interesting outcome is the potential of photometric surveys to yield constrains in the growth of structure through redshift space distortions. Hence we discuss the prospects for a full shape analysis of the angular correlation function at BAO scales in forthcoming photometric surveys.

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Session Classification: Contributed Talks