

Journal Club

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Joining Forces Against the Dark Universe: From the Cosmic Microwave Background to the Large Scale Structure

Despite tremendous recent progress, gaps remain in our knowledge of our understanding of the Universe. We have not yet pinned down the properties of dark energy, nor have we confirmed Einstein's theory of Gravity at the largest scales. Current and upcoming large sky surveys of the Cosmic Microwave Background (CMB), Large Scale Structure (LSS) in galaxies, quasars and Lyman-alpha forest present us with the best opportunity to understand properties of the Universe.

I will first review recent cosmology results from CMB and LSS, concentrating on BOSS results using Baryon Acoustic Oscillations and Redshift Space Distortions. I will then introduce novel cosmological probes which combine CMB with LSS directly. These novel probes will open new windows into the momentum field of the Universe and Gravity at the largest scales. I will finally put these into the context of upcoming surveys such as Dark Energy Spectroscopic Instrument (DESI), Wide Field Infrared Survey Telescope (WFIRST) and CMB S4.

Friday, Nov. 18, 2016



4pm

301 Physical Sciences Bldg.