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**The Baryon Oscillation Spectroscopic Survey (BOSS): Constraining dark energy with Baryon Acoustic Oscillations** FLORIAN BEUTLER, Lawrence Berkeley Natl Lab, BOSS COLLABORATION — I will present results from the final data release (DR12) of the Baryon Oscillation Spectroscopic Survey (BOSS), with particular focus on the Baryon Acoustic Oscillation (BAO) signal in the large scale clustering of galaxies. The BAO signal represents a special scale in the distribution of galaxies, which can be used to map out the expansion history of the Universe. BOSS achieved a 1% BAO constraint at redshift z = 0.57, by far the best BAO constraint to date. BOSS also achieved a 2% BAO constraint at redshift z = 0.32, representing the second best BAO constraint to date. In combination with constraints from the Cosmic Microwave Background (CMB), we are able to put tight constraints on several extensions of the standard cosmological model, LCDM, including the dark energy equation of state, the sum of the neutrino masses and the curvature of the Universe. I will present constraints combining the latest results from BOSS-DR12 with the Planck CMB experiment.

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