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Next-Generation Baryon Acoustic Oscillations with eBOSS and DESI DAVID SCHLEGEL, Lawrence Berkeley National Lab, SLOAN DIGITAL SKY SURVEY IV - EBOSS COLLABORATION, DARK ENERGY SPECTROSCOPIC SURVEY (DESI) COLLABORATION — The next-generation of dark energy experiments using the baryon acoustic oscillation (BAO) technique will measure the expansion rate of the universe through most its history. The Extended Baryon Oscillation Spectroscopic Survey (eBOSS) will do so using a map of 1.2 million galaxies, quasars, and Lyman-α forest sightlines spanning redshifts 0.5 to 3. The Dark Energy Spectroscopic Instrument (DESI) will substantially increase these samples to 20 million to achieve BAO measures near the cosmic variance limit. eBOSS and DESI rely upon improved target selection and improved instrumentation relative to the precursor BOSS survey. A combination of optical and infrared imaging data is used to target of luminous red galaxies, emission line galaxies, and quasars.

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