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Type: **Talk**

Elisabeth Krause (Caltech): Dark energy

Wednesday, 21 February 2018 09:00 (30 minutes)

The accelerated expansion of the Universe is the most surprising cosmological discovery in decades. It has inspired a new generation ambitious surveys to determine the fundamental nature of this acceleration. This talk will introduce the different measurement techniques used by these surveys, and describe the landscape of current and near future cosmological sky surveys. This talk will highlight recent cosmology constraints from a combined analysis of galaxy clustering and weak gravitational lensing from the first year of the Dark Energy Survey. The analysis combines (i) the cosmic shear correlation function of 26 million source galaxies in four redshift bins, (ii) the galaxy angular autocorrelation function of 650,000 luminous red galaxies in five redshift bins, and (iii) the galaxy-shear cross-correlation of luminous red galaxy positions and source galaxy shears. These three measurements yield consistent cosmological results, and provide constraints on the amplitude of density fluctuations and dark energy equation of state that are competitive with those from cosmic microwave background measurements.

Presenter: Dr KRAUSE, Elisabeth (Caltech)

Session Classification: Session 1