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Dark matter interactions and large scale structure of the universe

Monday 21 May 2018 10:00 (30 minutes)

The cosmological standard model, LCDM, provides a very good overall fit to the precision cosmological data from the CMB, its polarization, baryon acoustic oscillations, measurements of large scale structure, and the current expansion rate of the universe. The most significant tension in the fit is associated with two quantities: the current expansion rate, H_0, and the amplitude of the matter power spectrum at the scale of galaxy clusters, sigma_8. I explain the physics behind this tension and present models with dark matter interactions which can remove it. I also show how future measurements of the shape of the matter power spectrum from weak lensing can be used to differentiate between models.

Presenter: SCHMALTZ, Martin (Boston University) **Session Classification:** Plenary Session