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**Cosmological observables and the nature of
dark matter**

Friday, 3 November 2017, 11:30

Room A304

The Λ CDM model has proved to be a great success at large scales adequately described by linear perturbation theory. However, this model might be at variance with cosmological observables at smaller scales. Also the lab and galactic searches for the dark matter particle have yet to reveal the nature of dark matter. After a brief review of the Λ CDM model, four alternative dark matter models will be discussed: Late Forming Dark Model (LFDM), Warm Dark Matter (WDM), Ultra Light Axion (ULA), and Charged decaying particle (CHDM). These models are largely motivated by observations that suggest the standard model overestimates the matter power at small scales. I will discuss cosmological constraints on these models and also their observable consequence.