## **Particle Physics Challenges**



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## Gravitational wave cosmology with LISA

Thursday 27 September 2018 14:00 (20 minutes)

In this talk I will present the current status of cosmological forecasts for the Laser Interferometric Space Antenna (LISA). I will show that LISA will constitute a unique cosmological probe able to measure the expansion of the universe from low redshifts (z=0.01) up to very large redshifts (z=10). This is made possible by the use of different gravitational wave sources as standard sirens: stellar origin black hole binaries (low redshift), extreme mass ratio inspirals (intermediate redshift) and massive black hole binaries (high redshift). I will discuss the methodologies used to obtain cosmological constraints and present the latest cosmological forecasts based on state of the art simulated catalogues of gravitational wave sources.

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