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Revealing the Cosmic History with Gravitational Waves

Thursday, 7 July 2022 15:00 (15 minutes)

The characteristics of the cosmic microwave background provide circumstantial evidence that the hot radiation-dominated epoch in the early universe was preceded by a period of inflationary expansion. Here, it will be shown how a measurement of the stochastic gravitational wave background can reveal the cosmic history and the physical conditions during inflation, subsequent pre- and reheating, and the beginning of the hot big bang era. This will be exemplified with a particularly well-motivated and predictive minimal extension of the Standard Model which is known to provide a complete model for particle physics – up to the Planck scale, and for cosmology – back to inflation.

In-person participation

Yes

Primary authors: Dr RINGWALD, Andreas; TAMARIT, Carlos (TUM)**Presenter:** TAMARIT, Carlos (TUM)**Session Classification:** Astroparticle Physics and Cosmology**Track Classification:** Astroparticle Physics and Cosmology