

# Non-Gaussianity from the Cross-correlation of the Astrophysical Gravitational Wave Background and the Cosmic Microwave Background

*Tuesday, 24 October 2023 16:15 (2 hours)*

Since the first LIGO/Virgo detection, Gravitational Waves (GWs) have been very promising as a new complementary probe to understand our Universe. One of the next challenges of GW search is the detection and characterization of the stochastic gravitational wave background (SGWB), that is expected to open a window on the very early Universe (cosmological background) and to provide us new information on astrophysical source populations (astrophysical background). In this talk, I will focus on the anisotropic contribution of such a signal, imprinted both at the production and in the propagation towards the Earth, accounting for the properties of the astrophysical sources. Specifically, I will present the cross-correlation between these anisotropies and the Cosmic Microwave Background (CMB) ones. Furthermore, I will talk about the possibility to measure non-Gaussianity ( $n_G$ ) accounting for large-scale corrections to the bias and the capability of next generation space-based interferometers to detect such a cross-correlation signal.

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