

# BSM<sup>2</sup> - Beyond the Standard Model BrainStorming Meeting: Particle Physics and Cosmology interface



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## Gravitational waves from cosmic superstrings and gauge strings

*Sunday 14 July 2024 09:30 (40 minutes)*

We perform a phenomenological comparison of the gravitational wave (GW) spectrum expected from cosmic gauge string networks and superstring networks comprised of multiple string types. We show how violations of scaling behavior and the evolution of the number of relativistic degrees of freedom in the early Universe affect the GW spectrum. We derive simple analytical expressions for the GW spectrum from superstrings and gauge strings that are valid for all frequencies relevant to pulsar timing arrays (PTAs) and laser interferometers. We analyze the latest data from PTAs, and study correlations between GW signals at PTAs and laser interferometers.

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