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Gravitational Waves from Superconducting Cosmic Strings

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Cosmic strings are one-dimensional topological defects that arise from the spontaneous symmetry breaking in the early universe. In particular, superconducting cosmic strings, which have attracted attention from an astrophysical perspective, are characterized by their interactions with matter fields and are thought to have formed during the grand unification epoch. Cosmic strings have been proposed as a potential source of primordial gravitational waves and may provide insights into new physics associated with grand unified theories. In this workshop, we will present research findings on gravitational waves induced by superconducting cosmic strings, based on numerical simulations of field dynamics.

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