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Gravitational waves from quasi-stable cosmic strings

Tuesday, 13 June 2023 17:30 (20 minutes)

We discuss the stochastic gravitational wave background emitted from a network of 'quasi-stable' strings and its realization in grand unified theories. A symmetry breaking in the early universe produces monopoles that suffer partial inflation. A subsequent symmetry breaking at a lower energy scale creates cosmic strings which are effectively stable against the breaking via Schwinger monopole-pair creation. As the monopoles reenter the horizon, we will have monopole-antimonopoles connected by strings and further loop formation essentially ceases. As a consequence, the lower frequency part of the gravitational wave spectrum will be suppressed in comparison with that from topologically stable cosmic strings.

Secondary category for the parallel session (optional)

BSM Theories

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