



Contribution ID: 63

Type: not specified

Gravitational waves from quasi-stable cosmic strings and implication to NANOGrav 15-year data

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. Superheavy quasi-stable strings generate stochastic gravitational waves over a wide frequency range and are compatible with the NANOGrav 15-year data.

Presenter: MAJI, RINKU (Physical Research Laboratory Ahmedabad)

Session Classification: Posters of wednesday (ignore time)