

Probing cosmic superstrings with gravitational waves

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We discuss the stochastic gravitational wave background generated by cosmic superstring networks and show that heavier string types may leave distinct signatures on this spectrum. We show that these signatures may be within the reach of present and upcoming gravitational wave detector (particularly of pulsar timing arrays). This demonstrates that approximating the gravitational wave spectrum generated by cosmic superstring networks using the spectrum generated by ordinary cosmic strings with reduced intercommuting probability (which is often done in the literature) leads, in general, to weaker observational constraints on the tension of fundamental strings and to a loss of information about the underlying string theory.

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