

Impact of an early matter-dominated era on the cosmic string gravitational waves

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We study the stochastic gravitational wave background from cosmic strings modified by an early matter-dominated era caused by the dark matter dilution mechanism, which is commonly considered as a way to dilute the overproduced dark matter in particular scenarios. The dilutor in such a mechanism could lead to a matter-dominated era inside the conventional radiation-dominated era, affecting the expansion process of the universe. This would modify the shape of the spectrum of cosmic string gravitational waves. We show how the dilutor mass and other parameters influence the gravitational wave spectrum.

Primary authors: 凌, 世祺; 余, 钊焕 (中山大学)

Presenter: 凌, 世祺

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