

Universidad del País Vasco Euskal Herriko Unibertsitatea The University of the Basque Country

Seminarios de Física Teórica Fisika Teorikoa: Hitzaldiak

Gravitational self-interactions of cosmic string loops

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Abstract Gravitational wave signals from cosmic strings are strongly influenced by the presence and character of generic features on string loops known as kinks and cusps. We find analytically the leading-order effect of gravitational self-interactions on strings near kinks and cusps, and discuss how these effects might influence loop evolution. We show the results of numerically evolving particular kinds of loops undergoing self-interactions, and comment on how the gravitational wave spectrum from loops might be affected.

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