

Interaction between cosmic strings in higher-dimensional models

Thursday, 21 August 2025 17:30 (20 minutes)

Many recent studies of cosmic strings highlight the importance of investigating them within the framework of field theory to better understand their properties. In this talk, we show how the shape of scalar potential influences the interaction between strings. Although many works of cosmic strings assume that the Mexican-hat potential to break $U(1)$ symmetry, various types of potentials are considered in models that aim to describe physics beyond the Standard Model. As one of the examples, we have investigated the interactions between strings in higher-dimensional models. We have found that they exhibit a novel distance dependence, which is absent in the case of the Mexican-hat potential. We also propose a conjecture to explain the emergence of this distance-dependent interaction. This presentation is based on <https://inspirehep.net/literature/2835186>.

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