Workshop on Cosmic Indicators of Dark Matter 2024



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Multi-Field Oscillons in Real-FLS model

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Oscillons are soliton-like localized configurations formed by real scalar fields. In the context of cosmology, it is predicted that oscillons are formed in inflationary models or axion models, and they are suggested to be the origin of gravitational waves or the seeds of primordial black holes. Typically, oscillons are studied in the context of a single real scalar field. However, the existence and nature of oscillons in systems with two or more interacting real scalar fields present an intriguing problem. Recently, such multi-field oscillons have been constructed using two-timing analysis. In this talk, we will apply the two-timing analysis and construct multi-field oscillons within our real-FLS model.

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