

How much is the lifetime of an oscillon affected by coupling to another field?

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Oscillons are long-lived localized spherical solitons of real scalar field with potential flatter than quadratic. They are considered to be formed at the end of inflation and important in the early universe. Their lifetime can be greatly affected by the coupling of inflaton field to other fields. We consider an oscillon coupled with another real scalar field and investigate the effect on the oscillon's decay and lifetime. We use both semi-analytical method and numerical simulation to investigate the evolution and lifetime of the oscillon.

Presenter: Ms LI, Siyao (IBS CTPU-CGA)

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