

Abstract Submitted
for the TSS21 Meeting of
The American Physical Society

Gravitational effects on oscillon lifetimes HONG-YI ZHANG, Rice Univ — Many scalar field theories with attractive self-interactions support exceptionally long-lived, spatially localized and time-periodic field configurations called oscillons. They can form naturally in the very early universe close to the big bang, or in dark matter in the present-day universe. To better understand their cosmological implications, it is crucial to study oscillon decay rates and lifetimes. In this short talk, I will first review such a method that can be applied to oscillons for generic potentials (including non-polynomial ones), and then discuss the gravitational effects on oscillon lifetimes.

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Date submitted: 18 Mar 2021

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