

Cosmology and strong gravity with a subdominant scalar field

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We discuss the cosmological evolution of a scalar field in theories motivated by beyond-GR compact object phenomenology, e.g. scalarization. Such theories predict strong-gravity deviations with respect to GR in the vicinity of very compact stars and black holes, but the asymptotic conditions are determined by cosmological arguments. We explore the stability of scalarization models on a cosmological background for a subdominant scalar field, we show the assumptions under which a late-time attractor is retrieved, and discuss their consistency with early time cosmology and inflation.

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