

Gravitational massive stealth fields from deformation method

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We find a large class of scalar field theories in curved spacetime which admit massive configurations with vanishing energy momentum tensor (stealth fields), therefore they do not feedback the gravitational background. We show also that other massive modes contained in these theories possess rescaled energy momentum tensors with respect to the standard (Klein-Gordon) theory, i.e. whose strength can be smoothed or magnified according to the value of a single parameter, equivalent to the mass of the stealth configuration. Our result demonstrates that matter fields may produce non-standard effects in their gravity backgrounds, i.e. different of those expected from general relativity. Talk based in <https://arxiv.org/abs/1805.04621>

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