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Karmakar: "Cosmic structures in ghost-free scalar-tensor theories of gravity"

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In this article, we study the cosmic structures in the quadratic Degenerate Higher Order Scalar Tensor (qDHOST) model, which has been recently proposed as the most general scalar tensor theory without ghosts (up to quadratic dependence on the covariant derivatives of the scalar field).
We explicitly provide the covariant field equations of general Higher Order Scalar Tensor (qHOST) and qDHOST.
We then study a static, spherically symmetric object embedded in de Sitter space-time for the qDHOST model. This model exhibits breaking of the Vainshtein mechanism inside matter and Schwarzschild-de Sitter space-time outside the matter, where GR can be recovered.
(To appear on arxiv soon.)