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Covariant Effective Action for Generalized Proca Theories

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We check quantum stability of the generalized Proca theories in curved spacetime by computing the quantum gravitational corrections using Vilkovisky- Dewitt formalism. First we consider a range of the coupling constants to maximize the predictability of EFT. We find that there exists a regime where classical nonlinearity dominates while quantum corrections are still suppressed protecting EFT at scales where the Vainshtein mechanism screens the extra degrees of freedom.

References:

1. Aashish, Sandeep & Panda, Sukanta & Tinwala, Abbas & Vidyarthi, Archit. (2021). Covariant effective action for scalar tensor theories of gravity, *Journal of Cosmology and Astroparticle Physics*, **10 (2021) 006**
2. Panda, Sukanta & Tinwala, Abbas & Vidyarthi, Archit. (2021). Covariant effective action for Generalized Proca Theories, *Journal of Cosmology and Astroparticle Physics* **01 (2022) 01, 062**

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