

# Symmetry-Protected Higgs-Gravity Theories with a Cosmological Constant

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## Abstract

We investigate the space-time geometry for a class of symmetric Higgs-Gravity theories with an arbitrary massless scalar field. We first construct a class of Higgs-Gravity theories with a massless scalar field and obtain their Fourier transform functions. We then construct a class of the Higgs-Gravity theories with a vector field and obtain their Fourier transform functions. We then construct a class of the Higgs-Gravity theories with a volume and obtain their Fourier transform functions. Finally, we investigate the structure of the Higgs-Gravity theories with a field theory and find that the Fourier transform functions of the Higgs-Gravity theories with a volume are the same as those of the Higgs-Gravity theories with a field theory.