



量子物理学・ナノサイエンス第 56 回特別セミナー

Black holes in an effective field theory extension of general relativity

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- 日程** : 11 月 12 日 (月) 16:00–18:00
- 場所** : 本館 2 階 239 物理学系輪講室

概 要

Effective field theory methods suggest that some rather-general extensions of General Relativity include higher-order curvature corrections, with small coupling constants. In this talk, we discuss black hole solutions in such a framework. First, we construct spherically symmetric black hole solutions and study gravitational perturbation around them. Despite the higher-order operators of the theory, we show that linearized field equations obey second-order differential equations. We also study slowly rotating solutions around spherically symmetric black hole solutions and show that the spacetimes do not have Z_2 symmetry due to the parity violating term.

Reference:

V. Cardoso, M. Kimura, A. Maselli, L. Senatore, arXiv:1808.08962 [gr-qc]

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