

Primary black-hole scalar charges and kinetic screening in K-essence-Gauss-Bonnet gravity

Thursday, 21 May 2026 14:50 (30)

Black holes beyond General Relativity may carry non-standard charges that impact their phenomenology. I will present the scalar charge that is induced by the scalar-Gauss-Bonnet coupling and how it is affected by the presence of a nontrivial kinetic term $K(X)$. I will discuss the corresponding kinetic screening in the asymptotically flat, static solution first. I will then turn to the case where self-accelerating cosmology is driven by $K(X)$, finding that the time-dependence of the scalar field opens up the parameter space, turning the black-hole scalar charge from secondary to primary. I will provide a stability analysis and a measure of the intensity of the kinetic screening from the quartic dispersion relation of the mixed scalar and gravitational modes.

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Session Classification : Day 2