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Spontaneous scalarization of compact objects with Ricci and Gauss-Bonnet couplings

Spontaneous scalarization of compact objects provides one of the most interesting manifestations of new strong gravity physics while remaining undetected in the weak field regime. We demonstrate that there are theories that exhibit spontaneous scalarization while having General Relativity as a cosmological attractor. For that to happen, we assume a scalar-Ricci coupling in addition to the scalar-Gauss-Bonnet coupling. We show that the former term contributes non-trivially to the characteristics of the scalarized compact objects, including the scalar charge, and affects the radial stability of the solutions.

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