Scale-invariant compact objects in general relativity.

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Abstract

This presentation will discuss a new model of relativistic elastic stars characterized by scale invariance, leading to a linear mass-radius relationship and no maximum mass limit. We examine the model's most compact configuration, which is radially stable, complies with energy and causality conditions, and has a radius slightly smaller than the Schwarzschild light ring radius. This model offers a fresh perspective in astrophysics, showing the similarities of these stars to black holes in General Relativity. The talk will focus on the model's theoretical foundations and its implications for understanding compact objects in the universe.

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