Alternative Gravities and Fundamental Cosmology - ALTECOSMOFUN'21 [VIRTUAL]

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Compact Objects in Alternative Gravities

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Compact astrophysical objects like black holes and neutron stars are excellent tools to test the strong gravity regime of General Relativity and alternative gravity theories by comparing their theoretical predictions with current and future observations, since alternative gravity theories may feature distinctive signatures for these compact objects. While the analysis of the properties of black holes may yield direct insights for the gravity theories, an additional step is required in the case of neutron stars, whose properties depend also on their unknown equation of state. Thus universal relations should be obtained, to have (almost) equation of state independent predictions, that may, however, differ among the various gravity theories.

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