Invited Speaker

Name: Jutta Kunz

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Title: Black holes, wormholes and particle-like solutions in EsGB theories

Abstract: Einstein-scalar-Gauss-Bonnet theories feature a wide variety of interesting compact solutions, whose properties depend significantly on the coupling function of the scalar field to the Gauss-Bonnet term. This talk will focus on coupling functions, that allow for spontaneously scalarized black holes. In this case, the black holes of General Relativity remain solutions of the theory, but develop tachyonic instabilities, that give rise to new scalarized black hole branches. When scanning the domain of existence for these solutions, new types of compact solutions are found. On the one hand, novel wormhole solutions are encountered, and on the other hand particle-like solutions. Some of these solutions qualify as UCOs, ultra-compact objects. In this talk, the domain of existence and further properties of these EsGB solutions are discussed.