



Universidad del País Vasco
Euskal Herriko Unibertsitatea
The University of the Basque Country

Seminarios de Física Teórica Fisika Teorikoa: Hitzaldiak

The influence of the Gauss-Bonnet interaction on the properties of boson stars and hairy black holes

Betti Hartmann

University de São Paulo, São Carlos, Brazil

Abstract The Gauss-Bonnet (GB) term contains the curvature tensors in quadratic order and appears e.g as the first correction to the Einstein-Hilbert action in the low energy effective action of certain String Theories. In contrast to other extensions of General Relativity, the addition of the Gauss-Bonnet term does not alter the degrees of freedom - the equations describing the dynamics of the gravitational field remain second order. However, the Gauss-Bonnet contribution leads to a modification of these equations only in space-time dimensions larger than four. In this talk, I will describe how the properties of solutions to gravity-scalar field models change when taking the Gauss-Bonnet term into account. I will discuss globally regular solutions in the form of so-called boson stars as well as black holes which carry scalar hair on their horizon.

Prof. A. Chamorro Seminar Room, Dept. of Theoretical Physics, Corridor 4.-2.

Wednesday, Nov. 9th, 2016

Time:11:40 am