

VII Leopoldo García-Colín Mexican Meeting on Mathematical and Experimental Physics



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ROMÁN LINARES: α' corrections of Black Holes

Wednesday, 19 February 2020 18:00 (30 minutes)

In this talk we review some characteristics of the α' corrections of black holes in the context of Heterotic Superstring effective field theory. In particular we will discuss the corrections to non-extremal 4-dimensional dyonic Reissner-Nordström Black Holes. We argue that to first order in α' , consistency with the equations of motion of the Heterotic Superstring demands additional scalar and vector fields become active. We determine analytically the position of the event Horizon of the black hole, as well as the corrections to the extremality bound, to the temperature and to the entropy, checking that they are related by the first law of black holes thermodynamics.

Session Classification: SHORT TALKS

Track Classification: SYMPOSIUM ON BLACK HOLES AND GRAVITATIONAL WAVES