Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

"Supergravité, théorie des cordes et théorie M"

Jeudi 31 Mars 2016, 10:00

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U. Barcelona

Black holes in the 1/D expansion : Hydro-elastic complementarity

When the number of dimensions is very large, the gravitational field of a black hole is strongly localized near the horizon. Therefore in this limit the black hole can be effectively identified with a surface in an undistorted background geometry. The Einstein equations determine the equations that this 'effective membrane' must satisfy, which we have obtained for a large family of black branes. We find that black branes evolve as viscous fluids, but when they settle down they are naturally viewed as solutions of an elastic soap-bubble theory. The two views are complementary : the same variable is regarded in one case as the energy density of the fluid, in the other as the deformation of the elastic membrane.

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Retrouvez les activités de la communauté parisienne de théorie des cordes sur
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