Institut Henri Poincaré

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String Theory in Greater Paris

Rencontres Théoriciennes

"Supergravité, théorie des cordes et théorie M"

Jeudi 15 Juin 2017, 10:00

Thomas Hertog

University of Leuven

A Smooth Exit from Eternal Inflation ?

I discuss recent work with Bobev, Conti and Vreys in which we evaluate the partition function of the free O(N) vector model on a two-parameter family of squashed three spheres and in the presence of a mass deformation. The thermodynamics of this system turns out to be qualitatively similar to that of generalisations of the AdS Taub-NUT and Taub-Bolt solutions of Einstein gravity coupled to a scalar field. Recent formulations of dS/CFT enable one to interpret this partition function as the Hartle-Hawking wave function in a minisuperspace model consisting of anisotropic deformations of inflationary universes. I derive the resulting holographic measure in this model, which has a regime of eternal inflation. This measure indicates that the exit surface from scalar field driven eternal inflation is much smoother than what conventional wisdom about eternal inflation says.

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