Contribution ID: **213** Type: **Oral (Student, In Competition) / Orale (Étudiant(e), inscrit à la compétition)**

Critical Phenomena in Higher Dimensional Spherically Symmetric Gravity

Tuesday 17 June 2014 09:45 (15 minutes)

String theory provides motivation to investigate critical phenomena in microscopic black hole formation in higher dimensional gravity theories. We investigate gravitational collapse in higher dimensional spherically symmetric Einstein and Einstein-Gauss-Bonnet (EGB) gravity. Our previous work has suggested the existence of a mass gap in odd dimensional EGB gravity. With adaptive mesh refinement code I have developed we are now able to investigate in more detail the possibility of such a mass gap as well as the difference in the scaling relation between even and odd dimensions. In addition, work on gravitational collapse in spherically symmetric anti-deSitter spacetime is being done.

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Session Classification: (T1-3) Relativity and Gravitation - DTP / Relativité et gravitation - DPT

Track Classification: Theoretical Physics / Physique théorique (DTP-DPT)