



Contribution ID: 335
compétition)

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

To Infinity and Back

Tuesday 17 June 2014 10:30 (15 minutes)

An interesting property of anti-de Sitter space is that massless fields can travel to infinity in a finite time, bounce back more focussed and collapse to form a black hole. This has recently been shown to lead to the instability of AdS against the formation of black holes. Our goal is to shed light on this by numerically examining the effect of adding higher curvature terms to the Einstein-Hilbert action. In the case of 5-dimensional Einstein-Gauss-Bonnet gravity, for example, there exists a mass gap. That is, there appears to exist a minimum mass below which no black holes can form. It is of interest to see if this mass gap restores stability to AdS space in Einstein-Gauss-Bonnet gravity.

Author: Ms KOLLY, Allison (University of Winnipeg)

Co-authors: Dr FREY, Andrew (University of Winnipeg); Dr KUNSTATTER, Gabor (University of Winnipeg); Mr DEPPE, Nils (University of Winnipeg)

Presenter: Ms KOLLY, Allison (University of Winnipeg)

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

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