SEMPARIS – Séminaires en région parisienne

`http ://string.lpthe.jussieu.fr/semparis/`

Particle Physics at LPTHE

Mardi 28 Mars 2017, 14 :00
LPTHE, library
Domaines : hep-ph

Titre : *A biography of the Weak Gravity Conjecture*

Orateur : **Lukas Witkowski (APC Paris)**

Résumé : *In its original form the Weak Gravity Conjecture (WGC) is a proposed constraint on gauge theories coupled to gravity. From this simple starting point one can however arrive at far reaching implications : if true, the WGC gives rise to severe constraints on models of large-field inflation and it may have important consequences for the stability of the string theory landscape. It is this connection to inflation, which has led to renewed interest in the WGC in the recent years. However, the progress made in this time comes with a price : there exist several competing formulations of the conjecture. Further, there are various generalisations with varying levels of support. While more evidence has been gathered, there is still no proof. In this talk I want to give a status report on the WGC : in particular, I will present the current formulations, recent evidence and the status quo on applications to cosmology and particle physics.*