SEMPARIS – Séminaires en région parisienne

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Seminar of the theory group of APC

Mardi 5 Juin 2018, 14 :00
APC, 483 A - Malevitch
Domaines : hep-th

Titre : *Conformal symmetry in the Standard Model and Gravity*

Orateur : **Tomislav Prokopec (Utrecht University)**

Résumé : *I will discuss prospects of formulating simple extensions of the standard model and gravity that exhibit local Weyl symmetry in the ultraviolet. The principal advantage of such constructions is that they naturally address the gauge and gravitational hierarchy problem. Furthermore, I will argue that Cartan-Einstein gravity provides a natural framework for conformal symmetry, as this theory contains torsion vector which can be interpreted as the Weyl vector. One of the main predictions of conformal theories of gravity are torsion waves which can be in principle detected by gravitational wave observatories. Finally, I will also discuss other potential observable consequences of conformal symmetry arising from electroweak symmetry breaking and inflation.*