Seminar of the theory group of APC

Mardi 28 Novembre 2017, 14 :00
APC, 483 A - Malevitch
Domaines : hep-th

Titre : *Scale invariant Lifshitz hydrodynamics and Torsional Newton-Cartan geometry*

Orateur : **Elias Kiritsis (APC, Université Paris Diderot)**

Résumé : *Hydrodynamics is the generic low energy theory that describes fluids and generalizes thermodynamics. There are however quantum field theories, whose hydrodynamics is not known. A large class are non-relativistic theories with Lifshitz scaling (appearing in condensed matter systems). The gauge/gravity correspondence has provided a novel and precise correspondence between fluid dynamics and the gravitational physics of horizons. We use this to find the hydrodynamic equations that describe non- relativistic quantum field theories with Lifshitz scaling and hyperscaling violation. We also find the (torsional) Newton-Cartan gravity plays an important role.*