SEMPARIS – Séminaires en région parisienne

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

LPENS Particle physics phenomenology and cosmology

Jeudi 30 Mai 2024, 15 :00
LPENS, E239 - 24 rue lhomond - 75005 Paris
Domaines : hep-ph

Titre : *Hydrodynamics and pressure of direct and inverse phase transitions*

Orateur : **Miguel Vanvlasselaer (VUB)**

Résumé : *Phase transition are violent phenomena which occur when the state of universe evolves abruptly from a vacuum to another one and are common place in QFT. They have been connected to the production of gravitational waves, dark matter, primordial black holes and several models of baryogenesis. A direct phase transition connects a local vacuum to deeper vacuum and the driving force on the expanding bubble walls originates mostly from this difference of potential, while an inverse phase transitions connects a deeper minimum to a higher one. Such inverse phase transitions occur typically when the universe is heated, for example during reheating after inflation. We study for the first time the hydrodynamics and the energy budget of the inverse phase transitions and begin the investigation of the friction exerted on the bubble wall of the inverse phase transition.*