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Particle Physics at LPTHE

Mardi 4 Décembre 2018, 14 :00
LPTHE, Library
Domaines : hep-ph

Titre : *Direct Observations of Gravitational Waves and Fundamental Physics*

Orateur : **Loïc Villain (LMPT - Tours University)**

Résumé : *One century ago, Einstein predicted the existence of Gravitational Waves (GW), ripples in the structure of spacetime. Their recent direct detection by the LIGO-Virgo Consortium was a major achievement that marked the beginning of a new era in astrophysics.*

This talk will propose a general overview of some aspects of the physics of GW. It will start with a brief review of their history and of their properties in General Relativity (and beyond), after which will be described their main sources (neutron stars and black holes) and the methods to predict GW signals from such compact objects. It will then conclude with some examples of what has been and should be learnt on both nuclear matter and spacetime from the recent and forthcoming detections.