SEMPARIS – Séminaires en région parisienne

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Cours

Vendredi 5 Juillet 2024, 10 :00
IPHT, Salle Claude Itzykson, Bât. 774
Domaines : physics

Titre : *Aspects of black hole perturbation theory*

Orateur : **Luca Santoni (Université Paris Cité, CNRS, APC)**

Résumé : *The direct detection of gravitational waves from merging binary systems notoriously marked an important milestone in physics. Much of the success of gravitational-wave astronomy relies on perturbation theory. Perturbative approaches are essential ingredients in the study of gravitational-wave sources in the strong-field regime, such as the ringdown after the merger of a binary system, tidally perturbed compact objects, and extreme mass ratio inspirals.*

The course will review selected topics in the context of black hole perturbation theory. The lectures will provide a pedagogical introduction to the main concepts and ideas, dating back to the original works by Regge and Wheeler in the 1950s, while covering also some of the more recent developments and results in the literature.

Aspects to be discussed include :

-Introduction to black hole perturbation theory