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Seminar of the theory group of APC

Mardi 17 Mai 2022, 13 :30
APC, seminar room 483A, contact roperpol@apc.in2p3.fr for Zoom meeting details
Domaines : gr-qc

Titre : *Hidden symmetries of black holes*

Orateur : **Luca Santoni (ICTP)**

Résumé : *I will discuss classes of hidden symmetries of gravity and their consequences for black holes and compact objects. It is well known that asymptotically flat black holes in general relativity have a vanishing static tidal response (i.e., zero Love numbers). In the talk, I will first show that this is the result of a hidden structure of ladder symmetries governing static (spin 0,1,2) perturbations around black holes, and I will discuss the underlying geometric origin. I will also present examples of hidden symmetries and dualities at finite frequency and their consequences for quasinormal modes. I will finally briefly present an effective field theory for perturbations around black holes in scalar-tensor theories and discuss how to connect the effective couplings to possible deviations in the observed ringdown frequencies.*