



UNIVERSITÀ DEGLI STUDI
DI PERUGIA

AVVISO DI SEMINARIO

Mercoledì 24 maggio 2017 - ore 15:00
Aula A Dipartimento di Fisica e Geologia
(edificio di Fisica) Via Pascoli

Dr. Alessandro Nagar

Centro Enrico Fermi & Università di Torino

Onde gravitazionali da sistemi binari coalescenti: sinergia tra approcci analitici e numerici

Abstract: The direct detection by the LIGO & Virgo collaboration of the gravitational waves emitted by coalescing black hole binaries (GW150914 and GW151226) has marked the beginning of gravitational wave (GW) astronomy. In the first part of the talk, I will briefly review the recent experimental result and remind the basics elements of gravitational wave theory, focusing on the qualitative structure of the GW signal emitted by a coalescing binary (either made by two black holes or two neutron stars). In the second part of the talk, I will introduce the state-of-the-art analytical effective-one-body (EOB) approach to the general-relativistic two-body dynamics, its completion using numerical relativity (NR) simulations of (spinning) coalescing black hole binaries and its necessity to compute the (thousands of) analytical waveform templates needed for the actual data analysis of GW events like GW150914 and GW151226. Such theoretical interplay between analytical methods and numerical simulations is the key ingredient behind our interpretation of these events as a binary black hole coalescences.

Tutti gli interessati sono invitati a partecipare

La Responsabile:

Dr. Marta Orselli

Il Direttore:

Prof. Massimiliano R. Barchi