

----- Thursday, July 21, 2022 -----

Opening remarks and presentation of TEONGRAV

14:00 – 14:05 Welcome in Florence – L. Del Zanna

14:05 - 14:45 The INFN-TEONGRAV initiative – B. Giacomazzo

Session 1 – Neutron star mergers, jets, and multimessenger astronomy (chair L. Del Zanna)

14:45 – 15:00 Riccardo Ciolfi - Jet formation in GRMHD simulations of binary neutron star mergers

15:00 – 15:15 Andrea Pavan - Simulating the propagation of SGRB jets within self-consistent post-merger environments

15:15 – 15:30 Edoardo Tomasina - First results from short GRB jet simulations with numerical radiation transport

15:30 – 15:45 Eleonora Loffredo - Muons production and Neutrino trapping in Binary Neutron Star mergers

Coffee break (at vending machines, no catering today, sorry!)

Session 2 – Mergers and neutron star microphysics (chair L. Gualtieri)

16:15 – 16:30 Alessandro Camilletti - Numerical relativity simulations of the neutron star merger GW190425: microphysics and mass ratio effects

16:30 – 16:45 Pantelis Pnigouras - Inferring the dense nuclear matter equation of state with neutron star tides

16:45 – 17:00 Goncalo Castro - Rotational tidal Love numbers and their impact on neutron star inspirals

17:00 – 17:15 Cecilia Sgalletta - Modeling the population of Galactic binary neutron stars

17:15 – 17:30 Federico Maria Guercilena - A new first-order formulation of the Einstein equations exploiting analogies with electrodynamics

17:30 – 18:30 **Open discussion session**

20:30 - Social Dinner *All'Antico Ristoro di Cambi* (Via Sant'Onofrio 1/R, to be paid individually, sorry!)

----- Friday, July 22, 2022 -----

Session 3 – Binary black holes (chair: B. Giacomazzo)

09:00 – 09:15 Federico Cattorini - Simulations of massive black hole binary mergers in full general relativity

09:15 – 09:30 Sebastian Völkel - Probing Black Holes with Quasi-Normal Modes

09:30 – 09:45 Viola De Renzi - Characterization of two-spin effects in black-hole binary coalescences

09:45 – 10:00 Matteo Bonetti - Extreme Mass Ratio Inspirals triggered by Massive Black Hole Binaries

10:00 – 10:15 Daria Gangardt - Looking for spin precession and nutation in the gravitational wave catalogs

10:15 – 10:30 Costantino Pacilio - The landscape of black hole spectroscopy with LISA and the Einstein Telescope

Coffee break (kindly provided by *Fondazione CR Firenze* and by the local plasma group *ASAP*)

Session 4 – Gravitational waves from exotic objects, modified gravity (chair: M.F. De Laurentis)

11:15 – 11:30 Susanna Barsanti - Probing scalar fields with Extreme Mass Ratio Inspirals

11:30 – 11:45 Massimo Vaglio - Rotating boson stars as targets of gravitational wave searches and probes of new fundamental fields

11:45 – 12:00 Gabriel Andres Piovano - (Exotic) Spinning Compact Objects in Extreme Mass Ratio Inspirals

12:00 – 12:15 Vittorio De Falco - Gravitational Waves in Einstein-Cartan theory

12:15 – 12:30 Miguel Bezares - K-dynamics: Dynamics of Screening in Modified Gravity

12:30 – 12:45 Nicola Franchini - Fixing the dynamics in scalar-Gauss-Bonnet gravity

12:45 – 13:00 Enrico Cannizzaro - Environmental effects in dark photon superradiance

Lunch (kindly provided by *Fondazione CR Firenze* and by the local plasma group *ASAP*)