



GWEOS – 2019

constraining the equation of state of matter at extreme densities
with gravitational waves observations

Pisa (Italy), February 25th – 26th 2019



The idea of the workshop is to put together physicists with competences in gravitational waves, nuclear physics and neutron star physics to create a bridge between these communities and to foster future collaborations. A large amount of time is allocated for discussions, and the style of the communications should be open to dialogue.

List of issues we aim to discuss

What kind of constraints on the equation of state (EOS) of matter at very high densities are allowed by the present and future GW detector sensitivities?

What are the most up to date theoretical models for the EOS?

Can neutron stars sustain long-lived large quadrupolar deformations?

What is the current state of the art for numerical simulations?

What are the more urgent theoretical challenges?

What are the most relevant analysis limitations?

How can we bring together GW and EM constraints?

What do we expect to gain with third-generation GW observatories for fundamental physics of matter at extreme densities?

Round tables discussion leaders

Marie Anne Bizouard (ARTEMIS CNRS/OCA)

Fiorella Burgio (INFN - Catania)

Giancarlo Cella (INFN - Pisa)

Walter Del Pozzo (Pisa University)

Roberto De Pietri (Parma University)

Alessandro Drago (Ferrara University)

Alessandro Nagar (INFN - Torino)

Cristiano Palomba (INFN - Roma)

Speakers

Michal Bejger (APC and CAMK, Warsaw)

Sebastiano Bernuzzi (Friedrich Schiller University, Jena)

Ignazio Bombaci (Pisa University and INFN - Pisa)

Walter Del Pozzo (Pisa University)

Alessandro Drago (Ferrara University)

Bruno Giacomazzo (Trento University)

Leonardo Gualtieri (La Sapienza University, Rome)

Ian Harry (Portsmouth University)

Ian Jones (Southampton University)

Massimo Mannarelli (LNGS – INFN, Assergi)

Alessandro Nagar (INFN - Torino)

Hans-Josef Schulze (INFN - Catania)

Jo van den Brand (Nikhef Amsterdam)

Organizing Committee

Ignazio Bombaci (Pisa University and INFN - Pisa)

Giancarlo Cella (INFN - Pisa)

Cristiano Palomba (INFN - Roma)



Lucia Lilli and Claudia Tofani, INFN, Pisa (Secretaries)
<https://agenda.infn.it/e/GWEOS2019>

