



The Galileo Galilei Institute for Theoretical Physics
Arcetri, Florence

Gravitational scattering, inspiral, and radiation

May, 18 2020 - July, 5 2020

The workshop will gather theoretical physicists working on connected, yet different aspects of gravitational waves. Major themes will be:

- 1 - to deepen links, and foster new collaborations, between the quantum gravitational scattering amplitude and the GR community, leading to improved perturbative approaches to the two-body system;
- 2 - to identify new synergies between the GR analytical and numerical communities which can improve the construction of waveform templates for the analysis of LIGO/Virgo data;
- 3 - to connect low frequency properties of the gravitational wave spectrum to recent progress in soft-graviton theorems, including predictions for gravitational memory, asymptotic symmetries, and logarithmic enhancements;
- 4 - to explore the implications of LIGO/Virgo data for modified gravity theories.

Topics:

- Analytic and numerical methods for the general relativistic two-body problem
- High energy gravitational scattering and radiation
- New approaches to gravitational amplitudes
- Soft theorems and their use for computing GW signals
- Alternative theories of gravity

Organizing Committee:

Dimitri Colferai (University of Florence),
Claudia de Rham (Imperial College London),
Alessandro Nagar (INFN, Turin),
Donal O'Connell (University of Edinburgh),
Pierre Vanhove (CEA, Saclay),
Gabriele Veneziano (CERN),
Alexander Zhiboedov (CERN)

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