



COLLOQUIA 2020/2021

Lunedì 22 Marzo 2021, ore 16
Online su Zoom*

Gravitational waves and the dawn of multimessenger astrophysics

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Abstract: The detection of gravitational waves has opened a new window on the Universe, paving the way to a new frontier in the study of cosmic phenomena. In particular, the joint detection of cosmic "messengers" such as gravitational waves and electromagnetic radiation will offer an unique opportunity to probe the physics of the most extreme astrophysical sources in the Universe, including black holes and neutron stars. In 2017 we had a first glimpse in the great potential of such multimessenger investigations with the binary neutron star merger GW170817, whose gravitational wave emission has been associated with a Gamma Ray Burst and the following kilonova emission. During the third observing run by Advanced LIGO and Virgo (O3) more gravitational wave signals have been detected, further confirming the impact on gravitational waves in our understanding of physics. During the talk I will discuss the main results obtained from joint observations of gravitational waves and electromagnetic radiation and highlight the prospects and opportunities for multimessenger astrophysics.

*The link Zoom will be sent by email to all people belonging to the Physics Department and INFN Pavia. Other interested people should register before 20/03/2021 at this link:

<https://forms.gle/6PqJ987CQsr3YZ2B7>

