



UNIVERSITA' DEGLI STUDI DI PAVIA

*DOTTORATO DI RICERCA IN FISICA*

## LEZIONE VOLTIANA

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del Dottorato in Fisica, a.a. 2017/2018*

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**Aula 102 (streaming in aula 103)**

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## Opening the gravitational wave window to the Universe

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**Abstract:** Gravitational waves were predicted 100 years ago by Einstein as ripples in spacetime caused by the acceleration of masses. After more than 50 years of experimental efforts, the two LIGO detectors in the USA and then also the Virgo detector in Italy, observed gravitational-wave signals opening an entirely new way of experiencing the universe.

The study of gravitational waves will give unique information on the existence and nature of dark compact objects, like black holes and neutron stars, and on gravitational physics at extreme conditions. Also, the study of primordial gravitational waves would uniquely allow the investigation of processes in the very early universe.

The status of the field will be reviewed, in the light of the gravitational wave signals detected so far, and future perspectives will be presented.



**La conferenza è rivolta a tutto il pubblico.  
Ingresso libero, nei limiti della capienza delle aule.**

