

# GW150914: THE DETECTION OF GRAVITATIONAL WAVES

## Results and perspectives

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On February 11th 2016, the LIGO Scientific Collaboration and the Virgo Collaboration announced the detection in the LIGO interferometers of the gravitational wave signal emitted in the coalescence of two stellar mass black holes.

This discovery is clearly a cornerstone of the modern physics. It is the first direct detection of a gravitational wave, predicted in the General Relativity theory of Albert Einstein.

It is the first demonstration of the formation of black holes of stellar mass and of their coalescence.

Finally, it marks the dawn of a new sector of astrophysics: the gravitational astronomy.

The gravitational wave physics, the detection and the science potential will be illustrated in the seminar.