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A Multimessenger Picture of GW170817

Abstract

With the detection of the binary neutron star merger GW170817 a new era of multi-messenger astronomy started. GW170817 proved that neutron star mergers are ideal laboratories to constrain the equation of state of cold supranuclear matter, to study the central engines of short GRBs, to understand the origin and production of heavy elements, and to measure the expansion of the universe. In the talk, we discuss some of the interesting insights we learned from GW170817 and present work crucial for this recent scientific success, in particular, the development of accurate gravitational waveform models and the progress made in the field of numerical relativity.