APR18-2018-020107

Abstract for an Invited Paper
for the APR18 Meeting of
the American Physical Society

Numerical Simulations of Binary Neutron Star Mergers: Gravitational Waves and Short Gamma-Ray Bursts

ANDREA ENDRIZZI, University of Trento

The discovery of GW170817 and GRB170817A showed that (at least some) short gamma-ray bursts are produced by the merger of binary neutron star (BNS) systems. I will review the current status of fully general relativistic magnetohydrodynamic (GRMHD) simulations of BNS mergers with a particular focus on the possibility of producing the relativistic jets responsible for the gamma-ray emission. I will also discuss the effects that magnetic fields may have on the post-merger gravitational-wave emission and their impact on our capability of measuring the equation of state of neutron star matter.