**Plenarvortrag** PV XVIII Fr 9:00 Plenarsaal

**Neutron Star Mass and Radius Measurements and Implications for the Dense Matter Equation of State** — •James Lattimer — Stony Brook University, Stony Brook, NY, USA

The recent detection of gravitational waves and electromagnetic emissions from the binary neutron star merger GW170817 resulted in stringent limits concerning the masses and radii of the coalescing stars. These estimates complement onging measurements from pulsar timing and X-ray observations as well as theoretical limits stemming from neutron matter theory and condensed matter and nuclear experiments. There are important ramifications for the dense matter equation of state originating not only from these mass and radius measuremnts, but also from new lower and upper bounds to the maximum mass of neutron stars that can be inferred from observations. Additional gravitational wave events together with results from the NICER X-ray mission that are expected in the near future will continue the excitement in this topic.