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## Using Multimessenger Observations of Neutron Star Mergers to Probe Symmetry Energy

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Neutron stars are the universe's best natural laboratories to study dense nuclear matter. At high densities, low temperatures, and high isospin asymmetry inaccessible in terrestrial collider experiments, neutron stars host the most extreme matter in the universe. Different regions of neutron stars will probe different physics, with some observables dominated by the poorly understood physics at supranuclear densities, while others can be used to constrain properties of nucleonic matter, such as the nuclear Symmetry Energy. I will discuss our latest work on Resonant Shattering Flares, multimessenger signatures which can be used as a powerful constraint on the Symmetry Energy. Studying different astrophysical observables of neutron stars can provide probes at different densities, and hence of different physics.

**Primary authors:** TSANG, David (University of Bath); NEILL, Duncan (University of Bath); NEWTON, William (Texas A&M University-Commerce)

**Presenter:** TSANG, David (University of Bath)

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