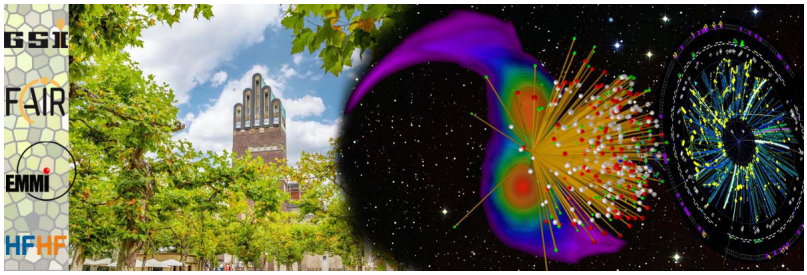

Contribution ID: **29** Type: **Oral**

Probing neutron stars with resonant shattering flares and gravitational waves

Tuesday, 19 September 2023 12:30 (25 minutes)

Asteroseismic modes within neutron stars (NSs) provide can provide novel insight into NS structure and the physics of dense matter, as they are sensitive to a variety of different stellar properties. The multimessenger detection of a resonant shattering flare and gravitational waves from a binary NS merger could allow us to measure the frequency of the crust-core interface mode. This mode is sensitive to the shear speed within the NS crust, which in turn depends on the nuclear symmetry energy. I will discuss the possibility of detecting such multimessenger events, and examine what such detections could be used to infer about the symmetry energy.

Primary author: NEILL, Duncan (University of Bath)

Co-authors: TSANG, David (University of Bath); NEWTON, William (Texas A&M University-Commerce)

Presenter: NEILL, Duncan (University of Bath)

Session Classification: Astrophysical, multi-messenger observations

Track Classification: Astrophysical, multi-messenger observations