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## Hyperons in neutron star mergers

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Neutron star merger events are unique laboratories for exploring matter under extreme temperatures and densities. These conditions might harbor exotic particles like hyperons. In this talk I will discuss how the presence of hyperons influences the properties of matter (equation of state) and how this manifests in observable phenomena. The main focus will be on the distinct signatures arising from the thermal behavior of hyperons. Their presence leads to a significant decrease in thermal pressure, resulting in a characteristic increase of up to 150 Hz in the dominant frequency of gravitational waves emitted after the merger, compared to scenarios where hyperons are not present in matter. This effect opens a potential avenue to probe the composition of dense matter in neutron stars using future gravitational wave observations.

### session

H. Equation of State and Neutron Stars

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