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Learning about dense matter from gravitational waves

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Binary neutron stars are some of the most promising sources for gravitational-wave detections with Advanced LIGO. For any gravitational-wave source containing matter, the matter contributes to the spacetime dynamics, leaving an imprint on radiation from the system. I will discuss how we can understand and model this imprint, so that we can use it to constrain our understanding of the properties of dense matter, with a focus on the inspiral and merger of binary neutron stars.