The Structure and Signals of Neutron Stars, from Birth to Death



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## Continuous gravitational waves and neutron star microphysics

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Mechanisms of continuous gravitational-wave emission from neutron stars include long-lived r-mode oscillations and rotations of static deformations ("mountains"). Emission depends on the equation of state and transport coefficients of matter above nuclear density. Therefore gravitational-wave searches may be guided by, and reveal information on, the equation of state and other properties of dense matter. I give a brief survey of what we know about the links in both directions, and speculate about the prospects as the advanced interferometers come on-line.

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