

Abstract Submitted  
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**Parameterized equations of state for neutron stars** JOCELYN

READ, University of Wisconsin–Milwaukee — Substantial uncertainty remains in the equation of state of matter above nuclear density. A range of plausible equations of state have been proposed with varying assumptions about underlying physics. Progress is reported on using piecewise polytropes to create a generalized analytic equation of state with a small number of parameters that is sufficient to capture the features of a wide range of candidate equations of state. Astrophysical observations can then be used to systematically constrain the parameter space instead of ruling out individual equations of state. In particular, we consider potential constraints set by observation of gravitational waves from binary neutron star inspiral using Advanced LIGO with narrow banding.

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