

Abstract Submitted  
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**Detecting high-frequency gravitational waves with optically levitated sensors** ANDREW GERACI, University of Nevada, Reno, ASIMINA ARVANITAKI, Stanford University — We describe a tunable resonant method for gravitational wave detection using laser-cooled optically levitated sensors in an optical cavity. The approach we describe can exceed the sensitivity of next-generation gravitational wave observatories by up to an order of magnitude in the frequency range of 50-300 kHz, using an instrument of significantly reduced size. Possible sources for GWs at such high frequencies will also be discussed.

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