

Abstract Submitted
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All-sky LIGO Search for Periodic Gravitational Waves in the S4 Data¹ KEITH RILES, University of Michigan, LIGO SCIENTIFIC COLLABORATION — We report on an all-sky search with the LIGO detectors for periodic gravitational waves in the frequency range 50-1000 Hz and having a negative frequency time derivative with magnitude between zero and 10^{-8} Hz/s. Data from the fourth LIGO science run (S4) have been used in this search. Three different semi-coherent methods of summing strain powers have been used; their respective advantages and disadvantages will be discussed. Observing no evidence of periodic gravitational radiation, we report upper limits on strain amplitude and interpret these limits to constrain radiation from rotating neutron stars.

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