All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data

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We present results of an all-sky search for continuous gravitational waves (CWs), which can be produced by fast spinning neutron stars with an asymmetry around their rotation axis, using data from the second observing run of the Advanced LIGO detectors. Three different semi-coherent methods are used to search in a gravitational-wave frequency band from 20 to 1922 Hz and a first frequency derivative from -1×10^{-8} to 2×10^{-9} Hz/s. None of these searches has found clear evidence for a CW signal, so upper limits on the gravitational-wave strain amplitude are calculated, which for this broad range in parameter space are the most sensitive ever achieved.

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