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Einstein@Home all-sky search for continuous gravitational waves in advanced LIGO data

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Rapidly rotating neutron stars are promising sources of continuous gravitational waves for the LIGO and Virgo interferometers. All-sky searches for isolated neutron stars offer the potential to detect gravitational waves from neutron stars that have not been observed electromagnetically. The broad parameter space of these all-sky searches presents a significant computational challenge. The computing power amassed via the Einstein@Home project facilitates the most sensitive all-sky searches for isolated neutron stars. In this talk, I present the results of the first all-sky search for continuous gravitational waves on Einstein@Home with advanced LIGO data. This search covers the low frequency range of 20 Hz to 100 Hz, much of which was not explored by Einstein@Home in initial LIGO.

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