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An All-Sky Search for Continuous Gravitational Waves in the LIGO O3 Data Set AASHISH TRIPATHEE, University of Michigan, LIGO SCIENTIFIC COLLABORATION AND VIRGO COLLABORATION COLLABORATION — The LIGO-Virgo O3 data set offers not only detection of now-familiar compact binary mergers of distant black holes and neutron stars, but potentially the detection of much weaker but continuous radiation from nearby rapidly spinning, non-axisymmetric neutron stars in the galaxy. All-sky searches for such radiation from previously unknown stars using necessarily long data sets are computationally challenging and have given rise to several different approaches. We describe here the application of the well established PowerFlux program, including the method of loose coherence in its outlier followup, to an all-sky search in the first six months of LIGO data from the O3 observing run. The status of the search and its chosen parameters will be presented.

Aashish Tripathee
University of Michigan

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