

RECENT RESULTS AND FUTURE CHALLENGES FOR ISOLATED SOURCES OF CONTINUOUS GRAVITATIONAL WAVE SEARCHES WITH A NETWORK OF TERRESTRIAL GRAVITATIONAL WAVE DETECTORS

Thursday, 26 October 2023 10:30 (30 minutes)

Following the historic discovery of the signals from coalescing black hole and neutron star (NS) binaries, a new frontier in gravitational wave (GW) research is the detection of sources emitting periodic continuous waves (CWs).

Fast rotating NSs, emit a nearly monochromatic CW signal, whose frequency is proportional to the spin frequency.

An electromagnetic (EM) counterpart of CWs is expected, but EM-silent NSs are also potential CW sources. The detection of GWs from these sources is a high priority task for the LIGO/Virgo/KAGRA collaborations. The most recent efforts and results, together with future challenges, concentrating on the search for isolated neutron stars, will be presented in this talk.

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Session Classification: Neutron Stars in Gravitational Wave Physics