

Continuous mono-chromatic gravitational waves from isolated neutron stars

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Isolated neutron stars with non-axial asymmetry continuously emit mono-chromatic gravitational waves (GW) due to the time-varying quadrupole. Although their GW strains are much weaker than the GWs from compact object mergers, the close proximity of Galactic neutron stars (\sim kpc) makes them potential targets to search for these continuous GWs. Knowing the precise ephemeris (spin, etc.) of these neutron stars is crucial to perform targeted searches, which are, otherwise, less precise and more computationally intensive. Radio observations of pulsars can provide such prior information for the search. But a selection of high profile targets are emitting in the X-ray band only, requiring regular observations with sensitive X-ray instruments, such as NICER. I will present the so-far-unsuccessful searches for continuous gravitational waves from isolated neutrons stars.