

Not-so-blind searches for young, isolated, nearby gravitars

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Blind searches for continuous gravitational-wave signals (CWs) survey broad regions in the parameter-space in order to find currently unknown sources with possibly no electromagnetic counterpart. As a result, these searches are amongst the most computationally expensive searches in the current gravitational-wave data-analysis landscape. In this work, we revisit the detectability prospects of a theoretical, nearby population of young, isolated, CW-driven neutron stars (gravitars) using the current and future generation of ground-based gravitational-wave detectors. We construct specific search setups following the expected properties of this population, which result in a sensitivity improvement with respect to typical all-sky searches.

Primary author: TENORIO, Rodrigo (University of the Balearic Islands)

Co-authors: Mr MEROU-MESTRE, Joan-René (University of the Balearic Islands); Mr JAUME, Rafel (University of the Balearic Islands); KEITEL, David (david.keitel@uib.es); Prof. SINTES, Alicia M. (University of the Balearic Islands)

Presenter: TENORIO, Rodrigo (University of the Balearic Islands)

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