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The targeted search for the detection of gravitational waves from known pulsars

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In this talk, I will present the latest results by the LIGO-Virgo-Kagra Collaboration for the targeted search for continuous gravitational waves (GWs) from 236 pulsars. I will also present the first results using the 5n-vector method on the same set of pulsars. Using data from the third observing run of LIGO and Virgo (O3) combined with data from the second observing run (O2), no evidence of GWs was found. We set detection upper limits on the GW amplitude and on the pulsar ellipticity at 95% confidence level. 23 of the analyzed pulsars have strain amplitudes that are lower than the limits calculated from their electromagnetically measured spin-down rates.

Primary author: D'ONOFRIO, Luca (Istituto Nazionale di Fisica Nucleare)

Presenter: D'ONOFRIO, Luca (Istituto Nazionale di Fisica Nucleare)

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