

Targeted searches for continuous gravitational waves

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With help from Pulsar timing solutions, it becomes possible to target individual pulsars for their continuous gravitational wave (CW) emission. Such targeted searches are the most sensitive among the various types of CW searches. In the event of a non-detection, the constraints on the gravitational wave strain at twice the spin frequency of the pulsar translate to a constraint on the ellipticity - a quantitative measure of the asymmetry of the pulsar. This talk highlights how pulsar observations aid CW searches, describe two methods - a frequentist and a new Bayesian one, and shows results from recent targeted searches at AEI, Hannover.

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