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JOHANNES GUTENBERG UNIVERSITÄT MAINZ

THEP Journal Club

Feb. 23, 2018 at 12:30 p.m.
Minkowski Raum, Staudinger Weg 7, 05-119

Pizza & Physics at Lunchtime

Note: Masters Colloquium, THEP Social Room

Julien Laux
JGU Mainz

PTA constrains on Gravitational Waves from Phase Transitions

Spontaneous symmetry breakings in the early universe can produce gravitational waves in a measurable range, if there is a first order phase transition. These gravitational waves can be detected for example with Pulsar Timing Arrays (PTAs). With the Signal-to-Noise Ratio (SNR) one finds constraints for the detectable range of these arrays. As result one finds, that PTAs are useful for detecting gravitational waves produced by the chiral symmetry breaking at a temperature of 0.1 GeV. Additionally one can use the chi-squared in order to distinguish between a signal and a power law background of gravitational waves.

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