

JOINT TUFTS/MIT COSMOLOGY SEMINAR

The NANOGrav search for nanohertz gravitational waves

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Supermassive black hole binaries (SMBHBs), and possibly other sources, generate gravitational waves in the nanohertz part of the spectrum. For over a decade and a half the North American Nanohertz Observatory for Gravitational Waves (NANOGrav) has been using the Green Bank Telescope, the Arecibo Observatory, and, more recently, the Very Large Array to observe millisecond pulsars. Our goal is to directly detect nanohertz gravitational waves, which cause small correlated perturbations to the times of arrival of radio pulses from millisecond pulsars. We currently monitor almost 80 millisecond pulsars with sub-microsecond precision and weekly to monthly cadences. I will present an overview of NANOGrav Physics Frontiers Center activities and summarize the results of our most recent search for a stochastic background of gravitational-waves on the 12.5-yr dataset.

Tuesday, October 6, 2020, 2:30 pm

Zoom link will be distributed to joint cosmology seminar mailing list. If not
subscribed see <https://cosmos.phy.tufts.edu/mailman/listinfo/cosmology-seminar>

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