

# GRAVITATIONAL WAVES FROM PULSAR TIMING

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We review both the pulsar timing techniques able to detect gravitational waves in the nHz regime and the generation of such gravitational waves by compact binary sources. Their stochastic isotropic background obeys the Hellings–Downs pattern and is consistent with pulsar timing observations[1]. We then focus on specific supermassive black hole binaries and their gravitational radiation. For the individual sources OJ 287, S5 1928+738, and 3C 66B, we demonstrate that the amplitudes of the emitted gravitational waves remain below the sensitivity of the North American Nanohertz Observatory for Gravitational Waves (NANOGrav)[2]; nevertheless, they appear to be above the sensitivity of the forthcoming Square Kilometre Array (SKA) telescope.

- [1] AGAZIE ET AL., The NANOGrav 15 yr Data Set: Evidence for a Gravitational-wave Background, *The Astrophysical Journal Letters* (2023).
- [2] AGAZIE ET AL., The NANOGrav 15 yr Data Set: Bayesian Limits on Gravitational Waves from Individual Supermassive Black Hole Binaries, *The Astrophysical Journal Letters* (2023).