



Astronomy Program Opening Workshop August 22-26, 2016

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“Pulsar Timing Arrays and Detection of Nanohertz Gravitational Waves”

I will discuss use of an ensemble of radio pulsars as a gravitational wave detector. GW-induced timing signal levels are roughly 100 ns or less over time scales of 5 to ten years and they result from a stochastic background produced by supermassive black-hole binaries. Individual binaries may be detectable as continuous wave signals or by the gravitational wave memory effect produced during mergers. I will discuss the challenge of GW signal detection amid several source of noise that include the pulsar itself and the interstellar medium.