

Abstract Submitted
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WATCHMAN: Reactor Monitoring and Neutrino Physics with a Gadolinium Doped Water Detector¹ ADAM BERNSTEIN, LLNL, WATCHMAN TEAM² — WATCHMAN (WATER CHerenkov Monitoring of AntiNeutrinos) is a new US based experiment that will exploit the low energy antineutrino signal from reactors, supernova and decay-at-rest antineutrino beams to pursue a broad physics program. WATCHMAN aims to be the first detector in the world to detect low energy antineutrinos in water, by adding a gadolinium dopant that increases the efficiency for the final-state neutron arising from the antineutrino interactions on protons in the water. WATCHMAN will also serve as the world's first demonstration detector of remote reactor monitoring for nonproliferation applications, using a scalable water-based technology. In this talk, I will provide an overview of the physics potential of WATCHMAN, and explain the overlap of its nonproliferation and fundamental science goals.

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²Water Cherenkov Monitor for ANtineutrinos

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