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Eos: a prototype for next-generation neutrino detectors

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Hybrid neutrino detectors, capable of leveraging both Cherenkov and scintillation signals simultaneously, have the potential to revolutionize the field of low- and high-energy neutrino detection, offering unprecedented event imaging capabilities and resulting background rejection. These performance characteristics would substantially increase sensitivity to a broad program of fundamental physics, as well as reactor signals for potential nonproliferation applications. Eos is a planned few-ton scale prototype detector, designed to demonstrate the impact of cutting-edge neutrino detection technology. Leveraging novel scintillating materials, new, fast photon detectors and spectral sorting, Eos will be used to explore the impact of detector configuration choices on the potential for hybrid neutrino detection.

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