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Title: Remote Reactor Monitoring with the AIT-NEO Project

Abstract:

A significant risk in establishing peaceful nuclear energy programmes is the capability for nuclear power facilities to be used for the production of nuclear weapons. A potential new safeguards tool for demonstrating compliance with non-proliferation treaties is remote reactor monitoring via anti-neutrinos. Large liquid-based anti-neutrino detectors may offer a means of monitoring reactor power from a standoff distance of tens to hundreds of kilometres. By removing the requirement for physical access to the reactor site, such detectors would address concerns related to "intrusion" that are sometimes associated with more conventional reactor monitoring strategies.