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The Angra Neutrino Detector

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Neutrinos Angra is a compact surface detector developed with the purpose of monitoring the Angra II nuclear reactor at Angra dos Reis city, Brazil. About 5 thousand inverse beta decay interactions are expected per day in its Water-Gadolinium Cherenkov target, positioned 30 m from the reactor's core, with a fiducial volume of 1.4 ton and equipped with 32 8-inches PMTs. In this presentation, the current status of the project is reported: validation of the readout system, the complete simulation of the detector and data acquisition and its comparison with background measurements performed away from the reactor. It is shown that after a minimum of 10 days of data taking, our data selection and veto techniques will be able to distinguish the neutrino flux with 5 sigmas above the cosmic background. The detector will be assembled in its final location in mid-2016 when it will become the first neutrino detector completely developed in Brazil.

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