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iDREAM detector at Kalinin NPP: antineutrino signal, backgrounds and prospects

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Industrial Detector of REactor Antineutrinos for Monitoring (iDREAM) is a prototype detector designed to demonstrate the feasibility of antineutrino detectors for remote reactor monitoring and safeguard purposes. The 1 ton Gd-doped liquid scintillator detector is mounted in the Kalinin nuclear power plant (Russia), 20 m from the 3 GW_{th} VVER type commercial reactor. Antineutrinos are detected via inverse beta decay on protons. The detector took data both in reactor ON and OFF modes. In this talk the iDREAM measurements of the accidental and correlated backgrounds will be discussed. The iDREAM antineutrino data and the detector prospects will be reviewed in the framework of applied antineutrino physics.

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