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The module for positron detecting of the solid-state antineutrino detector

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In the report we present the data on the development of a prototype of module for a solid-state detector of electron antineutrinos, which is based on a plastic scintillator for detecting positrons from the inverse beta decay (IBD) reaction. It is assumed that the complex of scintillation modules, supplemented with screens for detecting neutrons from IBD reaction using the ZnS(Ag)-6LiF (or ZnS(Ag)-B2O3) scintillation composition, will make it possible to construct large-scale detectors for monitoring antineutrino fluxes generated in a fission chain reaction. The practical application of such detectors is connected with the remote monitoring of nuclear power plant reactors, small modular reactors, including floating power plants, as well as with the solution of nonproliferation problems.

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