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DANSS detector upgrade for better energy resolution

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The DANSS detector recorded more than 10 million antineutrino events from a nuclear reactor in almost 10 years of continuous running. The data taking has stopped in February 2026 in order to perform a significant upgrade. The obtained data sample exceeds that of any other neutrino experiment in the world and features remarkably low contribution from the cosmic background below 2%. At the same time only moderate energy resolution limits the sensitivity of the experiment to the New Physics searches. The upgrade is aimed at the significant, more than 2 times, improvement of the energy resolution, along with the 70% increase of the sensitive volume. The talk will cover the details of the production and testing of the new scintillation counters for the sensitive volume, the anticipated changes in the DAQ system, the projected energy and coordinate resolution from the MC simulation, as well as the status and the schedule of the upgrade works.

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