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Online Logbook System for the NICA experiments

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The acquisition of experimental data is an integral part of all modern high-energy physics experiments. This task is of particular importance in the experiments of the NICA megaproject due to the high interaction rate of heavy ion collision events and the complexity of the detector systems. During experiments sessions, not only the collected data are important, but also parameters and conditions under which the experiments are conducted. To record and store all the information, the shift crew needs a structured and systematized electronic journal. The report presents a new implementation of the Online Logbook System designed to automate the latter process for the NICA experiments being constructed at the Joint Institute for Nuclear Research for investigation of properties of nuclear matter under extreme conditions. The Logbook System allows collaboration members during experiment runs to record information on current events, operating conditions of the detectors and their parameters, which are further used in the raw data processing, reconstruction and physics analysis of the particle collision events in the experiments. A new version of the Online Logbook has been implemented as a configurable platform to be used in different experiments, such as the NICA experiments: a fixed target BM@N (Baryonic Matter at Nuclotron) experiment, and collider MPD (MultiPurpose Detector) and SPD (Spin Physics Detector) experiments. In addition, the specialized API and Web-interface developed for viewing, changing and searching the required logbook data are considered.

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