

## Data Management System for SPD Online Filter

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The Spin Physics Detector (SPD) is being built as a part of the NICA mega-science project at the Joint Institute for Nuclear Research. Due to the lack of a hardware trigger for event selection, it is necessary to collect and process the entire set of signals generated by its subsystems (the data flow is expected to reach up to 200 PB per year). To reduce the volume of data for long-term storage and subsequent analysis, primary processing will be performed by a specialized computing system - the SPD Online Filter.

This report outlines the architecture of the Data Management System (DMS), one of the core components of the SPD Online Filter's middleware. The DMS automates the lifecycle management of experimental data during initial processing and simplifies storage resource administration.

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