

Development Methodology of the Data Management System for the BM@N experiment

Thursday 30 October 2025 14:30 (15 minutes)

Methodology for developing the Data Management System (DMS) for BM@N, a fixed target experiment of the NICA (Nuclotron-based Ion Collider fAcility) complex is presented in the report. The Data Management System provides all the necessary tools for secure access to the experiment data. The goals of implementation of the logging and monitoring services, integrity and consistency checks, user interfaces, and authorization/authentication methods is described. The role of the File Transfer System for transferring large amounts of BM@N data is also noted. One of the key roles in the development methodology is played by the selection of the File Catalogue and the implementation of the Data Management System based on it, as well as the implementation of a file (or dataset) metadata service for the efficient search of data required for a specific processing or physics analysis.

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Session Classification: Information Technology

Track Classification: Information Technology