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The unified database for the fixed target experiment BM@N

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Today the use of databases is a prerequisite for qualitative management and unified access to the data of modern high-energy physics experiments. The developed database describing in this report is designed as comprehensive data storage for the ongoing sessions of the fixed target experiment BM@N at the Joint Institute for Nuclear Research. The structure and purposes of the BM@N facility will be briefly presented. The BMNRoot software of the experiment will be noted. The scheme of the developed database and its parameters will be described in the presentation in detail. The use of the unified database implemented on the MySQL DBMS allows to provide user access to the actual information of the experiment: run parameters, BM@N detector geometry, possible, changing during the session, the experimental data obtained, etc. It avoids the multiple duplication and use of outdated data in different subdivisions of the Joint Institute for Nuclear Research. The implemented automatic backup of the unified database ensures that all stored data of the experiment won't be lost due to software or hardware failure. Also the interfaces for the access to the developed database will be described in the presentation. One was implemented as the set of the specialized C++ classes of the BMNRoot software to access to data without SQL statements, the other –WEB-interface being available on the Web page of the BM@N experiment. At the end the report will conclude the possibility of using the unified developed database in other high-energy physics experiments.

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