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Modernization of database and algorithms for processing events in the Yakutsk EAS array

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In December 2024, an upgraded data recording and processing system was put into operation at the Yakutsk extensive air shower (EAS) array, and an additional detector grid with a step of 250 m was deployed, which covers the central part of the array with an area of 0.16 km^2.
In this report we will describe the upgraded software package for event processing and present the first results of its operation. As part of this work, a unified server database was created, combining data with different formats accumulated over the entire period of operation of the array since 1973. Event processing algorithms were updated and an analysis of the accuracy of reconstructing shower parameters was carried out based on Monte Carlo modeling. The first scientific results obtained on the new data collection and processing system are presented.

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