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Automation of BM@N Run9 data processing on a DIRAC distributed infrastructure

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In 2025, the 9th data-taking run is scheduled for the BM@N experiment. Since February 2023, when data from the 8th run were acquired, the BM@N data processing has been carried out using a geographically distributed heterogeneous infrastructure based on the DIRAC Interware software. For the 9th run, an automated task-launching methodology has been developed. The processing is triggered by the appearance of RAW-type files associated with the 9th run in the DIRAC file catalog. A dedicated service periodically checks the catalog for new files requiring processing and initiates the corresponding tasks. Since BM@N data processing occurs in two stages (first, RAW \rightarrow DIGI format conversion, followed by DIGI \rightarrow DST conversion), two task triggers must be defined: one for the arrival of RAW files and another for DIGI files. Automating the processing pipeline enables rapid feedback on the experimental data quality, allowing for timely Data Quality monitoring and issue resolution.

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