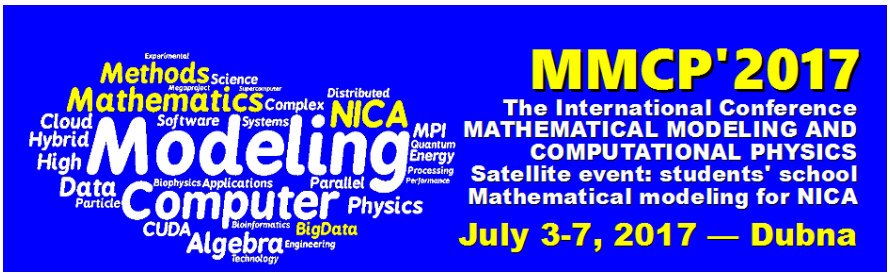

Contribution ID: **17** Type: **not specified**

Mock Data Challenge for the MPD/NICA experiment on the HybriLIT cluster

Thursday, 6 July 2017 15:30 (15 minutes)

The simulated data processing before receiving first experimental data is an important issue in the high-energy physics experiments. This work presents Mock Data Challenge (MDC) for the MPD experiment at the NICA accelerator complex. It uses the ongoing simulation studies to exercise in a stress-testing distributed computing infrastructure and experiment software in the full production environment from simulated data through a physical analysis. The current Event Data Model of the MPD experiment will be shown, and the MpdRoot software of the experiment based on this model will be noted. The report briefly describes a hardware part –the current structure of the heterogeneous computations cluster HybriLIT of the Laboratory of Information Technologies. In addition, software for parallelization of the MPD data processing is noted. The MDC presented in the work allows one to test the full processing chain (simulation, reconstruction and following physical analysis) for the MC data stream parallelized by the MPD scheduling system on the HybriLIT cluster and helps to identify its potential issues.

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Session Classification: Distributed and parallel computing and tools for scientific computing (II)