Upcoming External Talks on ePIC Simulation Campaign Workflow

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Conferences

1) [Throughput 2024](#) at Madison Wisconsion
2) [CHEP 2024](#) at Krakow Poland

The ePIC Simulation Campaign Workflow on the Open Science Grid

The ePIC collaboration is realizing the first experiment at the future Electron-Ion Collider at the Brookhaven National Laboratory that will allow for a precision study of the nucleon and the nucleus at the scale of sea quarks and gluons through the study of electron-proton/ion collisions. This talk will discuss the current workflow in place for running centralized simulation campaigns for ePIC on the Open Science Grid infrastructure. This involves monthly releases of ePIC software and container deployments to CVMFS, generation of input datasets in HepMC format according to collaboration-defined policy, using Snakemake in CI/CD for validation and benchmarking, and submitting jobs to the Open Science Grid condor scheduler for opportunistic running on available resources. File transfers utilize XrootD, and RUCIO is used for data management. The workflow is being continuously refined to improve daily throughput (currently ~50-100k core hours per day) and minimize job failures. Since May 2023, monthly simulation campaigns employing the workflow have cumulatively used over ~10 million core hours on the Open Science Grid and produced over ~280 TB of simulation data. The campaigns incorporate simulations for the broad science program of the EIC and are actively used for the detector and physics studies in preparation of the Technical Design Review.

Track 5 - Simulation and Analysis Tools