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Automated and Distributed Monte Carlo Generation for GlueX

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MCwrapper is a set of system that manages the entire Monte Carlo production workflow for GlueX and provides standards for how that Monte Carlo is produced. MCwrapper was designed to be able to utilize a variety of batch systems in a way that is relatively transparent to the user, thus enabling users to quickly and easily produce valid simulated data at home institutions worldwide. Additionally, MCwrapper supports an autonomous system that takes user's project submissions via a custom web application. The system then atomizes the project into individual jobs, matches these jobs to resources, and monitors the jobs status. The entire system is managed by a database which tracks almost all facets of the systems from user submissions to the individual jobs themselves. Users can interact with their submitted projects online via a dashboard or, in the case of testing failure, can modify their project requests from a link contained in an automated email. Beginning in 2018 the GlueX Collaboration began to utilize the Open Science Grid (OSG) to handle a bulk of simulation tasks; these tasks are currently being performed on the OSG automatically via MCwrapper. This talk will outline the entire system of MCwrapper, its use cases, and the unique challenges facing the system.

Consider for promotion

No

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Session Classification: Track 3 –Middleware and Distributed Computing

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