**Investigating nuclear collision geometry at the parton level with a modified Monte-Carlo Glauber model** RYAN WARD, J.L. KLAY, California Polytechnic State University — The Glauber model of nuclear collisions describes the geometrical distribution of interacting nucleons. Monte Carlo versions of the Glauber model have been very usefully applied to data from the Relativistic Heavy Ion Collider. This talk will review how it is used to model the collisions of nuclei at RHIC and LHC and describe the addition of a new parton-level interaction algorithm to model the geometric distribution of hard-scattered quarks in high energy nuclear collisions. The simulation, written in Java with full visualization and outputs to ROOT, will be demonstrated and results for collisions at RHIC and LHC will be discussed.

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