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Monte-Carlo Glauber model simulations of nuclear interactions
MIKHAIL MILLER, CHAD REXRODE, California Polytechnic State University San Luis Obispo — In order to understand the geometry of nuclear collisions, we created an iPython-based simulation of the Monte-Carlo Glauber model. The simulation utilizes a Woods-Saxon density distribution for the nuclei and cross-section data from the Particle Data Group to generate large samples of nuclear collisions. The results are analyzed to correlate the number of participating nucleons and binary collisions with the impact parameter of the events. Individual simulated collisions can be visually represented, demonstrating the event-by-event variation of the specific geometric overlaps, which are obscured in the ensemble data.

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