In the colliding of nuclei of different elements, many nucleons are scattered in directions adhering to physical laws, but the events occur so rapidly on scales so small that it is nigh impossible to preemptively determine how many nucleons will interact in the collision. The Glauber Model, named after Roy Glauber, is a technique used to geometrically simulate these collisions and determine the number of participating nucleons and binary-binary collisions as a function of the distance between the centers of the nuclei upon impact, known as the impact parameter. The two types of Glauber models include the Analytic and Monte Carlo model. –Summary of the Optical-limit Approximation.- The Monte Carlo approach distributes nucleons radially following a nuclear charge density profile unique to each element. The nucleons are given random azimuthal angles and a projection of this distribution is utilized to determine which individual nucleons participate in the collision. This approach assumes the nucleons travel straight throughout the entire event and can collide with many opposing nucleons without having its path deterred. The simulations in this report exclusively use the Monte Carle approach to Glauber modeling.

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