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Separation of different collision orientations in relativistic heavy ion reactions between deformed nuclei¹ CHANDRA NEPALI, GEORGE FAI, DECLAN KEANE, Kent State University — In relativistic uranium-uranium collisions, there is the potential to produce more extreme conditions of excited matter than is possible using spherical nuclei like gold or lead at the same incident energy. However, this potential is partly lost if it is not possible to distinguish experimentally between different collision orientations when the ions interact near zero impact parameter. Of special interest are the “tip-tip” orientation in which the long axes of both deformed nuclei are aligned with the beam axis, and the body-body orientation in which the long axes are both perpendicular to the beam axis and parallel to each other. In this talk, we report results of model simulations in which a promising level of discrimination can be achieved using a variety of experimental observables.

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