

Abstract Submitted
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Systematic Investigations of Femtosopic Radii in Heavy Ion Collisions RON SOLTZ, Lawrence Livermore National Laboratory, PHENIX COLLABORATION — The technique of femtoscopy has been used for many years to extract radii from multi-particle correlations to characterize the spatio-temporal extent of the emission region in heavy ion collisions. We will present a systematic study of these radii as a function of colliding species, centrality, energy, and orientation for a variety of identified particle correlations over a range transverse and longitudinal momenta. We will highlight a number of simple and elegant trends that reveal much about the nature of particle production in heavy ion collisions. Comparisons to models will be discussed in the context of constraining the equation of state for the matter created in these collisions. Future lines of inquiry will be considered.

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