

Abstract Submitted
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Probing the dynamics of heavy ion collisions via two-particle correlations¹ Z. CHAJECKI, V. HENZL, M. KILBURN, D. HENZLOVA, W.G. LYNCH, D. BROWN, D. COUPLAND, P. DANIELEWICZ, NSCL/MSU, C. HERLITZIUS, NSCL/MSU, A. ROGERS, A. SANETULLAEV, J. LEE, B. TSANG, A. VANDER MOLEN, M. WALLACE, M. YOUNGS, Y. SUN, NSCL/MSU, G. VERDE, INFN, Catania, Italy, Z.S. HUDAN, Indiana University, M. FAMIANO, Western Michigan University, R. DESOUZA, Indiana University, A. CHBIHI, Ganil, S. LUKYANOV, JINR, L. SOBOTKA, Washington University — The angular and rapidity dependence of proton-proton correlations functions is studied in central 40Ca+40Ca and 48Ca+48Ca nuclear reactions at E=80 MeV/c. Measurements were performed with the HiRA detector complemented by the 4 π Array at NSCL. A striking angular dependence in the laboratory frame is found within p-p correlation function reflecting the different space-time extent of the source selected. Sources measured at backward angles reflect the participant zone of the reaction, while much larger sources observed at forward angles reflect the expanding, fragmenting and evaporating projectile remnants. The estimate of the time scale of the fragmentation process is presented. The results are compared to the theoretical calculations from BUU transport model. This comparison emphasizes the importance of including the light clusters in the simulations to reproduce the experimental results.

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