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Two particle angular correlations in heavy ion collisions SIARHEI VAURYNOVICH, Massachusetts Institute of Technology, PHOBOS COLLABORA-TION — The nearly 4π angular acceptance of the PHOBOS silicon detector allows to perform measurements of 2-particle correlations over uniquely long distances in pseudorapidity with broad azimuthal angular coverage. Projections of the inclusive 2-particle angular correlation on the $\Delta \eta$ axis are studied in the context of a cluster model, allowing the extraction of the cluster size and decay width of the correlated particle production. This procedure reveals that particles are produced in very large clusters (up to an average size of around 6 charged particles) in the heavy ion collisions that were studied. Comparisons of the cluster size centrality dependence in Au+Au and Cu+Cu collisions demonstrate a scaling with the fractional cross section suggesting that the geometry of heavy ion collisions plays a significant role in the hadronization process. The high p_T -triggered correlations ($p_T > 2.5 \text{ GeV/c}$) are studied by comparing heavy ion collision data to p+p collisions simulated using PYTHIA, revealing in central Au+Au collisions an enhanced away-side yield much broader in $\Delta \phi$ and the presence of a near-side "ridge" extending continuously up to $\Delta \eta = 4$. Comparison of the near-side correlated yield to PYTHIA suggests a decomposition into separate jet and ridge constituents, with the ridge yield having a significant centrality dependence.

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