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Two-particle correlations of identified hadrons in Au+Au collisions for the Beam Energy Scan program at RHIC SEDIGHEH JOWZAEE, Wayne State University, STAR COLLABORATION — Two-particle correlation function is a powerful tool to study the dynamics of the heavy-ion collisions in both longitudinal and azimuthal directions. These correlations indicate the importance of various physical mechanisms, such as energy and momentum conservation, jet fragmentation, resonance decays and HBT correlation effects, collective flow, and are possibly related to a critical point in the phase diagram of nuclear matter. The STAR Collaboration presented two-particle rapidity correlation function for the most central events and different trends were observed for protons and pions.[1] In this talk, we show a detailed analysis of the rapidity and angular correlations of like-sign and unlike-sign identified hadrons (p, K and π) as a function of the centrality from the most central (0-5%) to the peripheral (70-80%), and collision energy of gold nuclei in the range of 7.7 to 200 GeV in the Au+Au collisions. The experimental results are compared to those from the UrQMD model[2].

[1]S. Jowzaee for the STAR Collaboration, **Nucl. Phys. A** 967 (2017) 792-795
[2]S. A. Bass *et al.*, **Prog. Part. Nucl. Phys.** 41 (1998) 255-369

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