

Abstract Submitted
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Positive and negative 2- and 3-particle correlations: what about hadron-proton correlation? GUOLIANG MA, Purdue University, STAR COLLABORATION — Multi-particle (2- and 3-) azimuthal correlation is thought as a good probe to explore the properties of strongly interacting partonic matter in central Au+Au collisions at RHIC. Especially, 3-particle correlation has a great potential to identify the production mechanism(s) of observed Mach-like correlation. Different from the previous analysis on multi-particle correlation between charge trigger and associated hadrons (abbr. $h-h$), this talk presents the multi-particle correlation between charge trigger hadron ($3 < p_T < 4$ GeV/ c) and positive/negative associated ones ($1 < p_T < 2$ GeV/ c) (abbr. $h-h^+$ and $h-h^-$). Because the medium is not baryon-free in the associated p_T region ($\bar{p}/p \sim 0.8$), the difference between $h-h^+$ and $h-h^-$ correlations can reflect the correlation between trigger hadron and associated protons (abbr. $h-p$). We present observed 2- and 3- particle $h-p$ correlations, and the corresponding implications will be discussed.

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