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Charged pion emission in Ag+Ag collisions at $\sqrt{s_{NN}}=2.55$ GeV measured with HADES

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At the HADES (High-Acceptance-DiElectron-Spectrometer) experiment, located at the GSI, Darmstadt, the reaction products of relativistic heavy-ion collisions are investigated. The goal is to probe strongly interacting QCD matter that exhibits extreme densities as assumed to be found in merging neutron stars [1]. In this contribution, results on charged pion emission in the collisions system Ag+Ag at $\sqrt{s_{NN}}=2.55$ GeV, measured in March 2019, are presented. Due to the high statistics available charged pions enable the investigation of the Coulomb effect, which can be used to estimate the baryon density at the point of kinematic freeze-out. Moreover, the focus is put on the azimuthal anisotropic flow. The reconstruction of the harmonics v_1 , v_2 and v_3 is explained and the results are inspected multi-differentially as a function of transverse momentum and rapidity. A special emphasis is put on the observation of triangular flow. [1] Adamczewski-Musch, J., Arnold, O., Behnke, C. et al. Probing dense baryon-rich matter with virtual photons. Nat. Phys. 15, 1040–1045 (2019), doi:10.1038/s41567-019-0583-8

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