

# Azimuthally-differential two-pion femtoscopy in Zr+Zr and Ru+Ru collisions at $\sqrt{s_{NN}} = 200$ GeV using the UrQMD model

*Monday 30 October 2023 21:45 (15 minutes)*

Correlation femtoscopy allows one to estimate the spatial and temporal characteristics of the particle-emitting region formed in the relativistic heavy-ion collisions. Azimuthally-differential analysis is used to study shape and orientation of the source. In this work, collisions of isobaric nuclei Ru+Ru and Zr+Zr at  $\sqrt{s_{NN}} = 200$  GeV are calculated using the UrQMD (Ultrarelativistic Quantum Molecular Dynamics) model and the azimuthally-differential two-pion femtoscopy relative to the second- and third-order event plane are performed. The extracted characteristics of the emission source are presented as a function of the pair transverse momentum,  $k_T$ , collision centrality and the pair emission angle. In the future, the obtained results can be compared with the STAR experimental data.

**Primary authors:** Ms VASILIEVA, Anastasiia (National Research Nuclear University MEPH); Mr BUROV, Nikolay (National Research Nuclear University MEPH)

**Co-author:** Ms KRAEVA, Anna (National Research Nuclear University MEPH, Joint Institute for Nuclear Research)

**Presenter:** Ms VASILIEVA, Anastasiia (National Research Nuclear University MEPH)

**Session Classification:** In-person poster session & welcome drinks

**Track Classification:** High Energy Physics