

# Azimuthally sensitive femtoscopy with RHIC Beam Energy Scan II data from STAR

Yevheniia Khyzhniak (for the STAR Collaboration)

The particle-emitting source in heavy-ion collisions can be tilted away from the beam direction. By using the azimuthally-sensitive femtoscopy technique with respect to the reaction plane, one can explore the space-time structure of the particle-emitting source and its tilted geometry. We present the first comprehensive measurement of the azimuthally-sensitive femtoscopic parameters with respect to the first order event plane and the tilt angle of the pion-emitting source at energies ranging from  $\sqrt{s_{NN}} = 7.7$  to 27 GeV, using the high statistics RHIC Beam Energy Scan II data from the STAR experiment. We use the plane of forward directed flow, extracted with high resolution using the STAR Event Plane Detectors, as a proxy for the reaction plane. We compare our results with the UrQMD model calculations, for which we show the correspondence between the tilt of the source extracted directly from the freeze-out surface and using the femtoscopic techniques performed in experiments.