## WPCF 2024 - 17th Workshop on Particle Correlations and Femtoscopy



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## Three-dimensional source sizes and shapes of hadron emis- sion in EPOS

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Femtoscopic measurements explore the strongly interacting Quark-Gluon-Plasma (sQGP) via examining the space-time characteristics of heavy-ion collisions using correlation functions of observed particles. This talk reports on an investigation of the space-time geometry of heavy-ion collisions based on the EPOS model, a state-of-the-art event generator. Based on its success with reliably reproducing many observables, we utilize it to investigate source geometry, and to explore the reason of the appearance of non-Gaussian, Lévy-type source distributions observed recently in multiple experiments. We show that such non-Gaussian, and in particular Lévy-stable source distributions arise on an event-by-event level, even if a three-dimensional distribution is assumed. We compare the event-averaged source parameters to experimentally obtained values.

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