

## Particle Interferometry from Hydrodynamics and Event Generators

*Thursday, 28 February 2019 14:05 (25 minutes)*

Particle interferometry - also known as Hanbury Brown-Twiss (HBT) interferometry - is a measurement technique based on momentum-space correlations between identical particles which has proven to be an indispensable tool in studying the space-time evolution of femtoscopic collision systems. In particular, HBT interferometry allows one to classify these collision systems on the basis of their collision geometry. This, in turn, provides a useful aid to calibrating things such as jet-quenching analyses in both large and small collision systems, where the precise geometry of the system plays a crucial role in the interpretation of experimental results.

In this talk, I describe some recent and ongoing efforts to connect the techniques of HBT interferometry with the question of QGP medium formation in heavy-ion collisions and high multiplicity hadron-hadron collisions, some of which are directly relevant to the goal of understanding jet-quenching in collision systems of various sizes. Specifically, I will show how hydrodynamic predictions for the space-time geometry can be tested using HBT, and I will discuss some current work to enable similar predictions to be made using the MC event generator formalism of Pythia/Angantyr for the modeling of high-energy collision systems.

**Presenter:** PLUMBERG, Christopher (Lund U.)