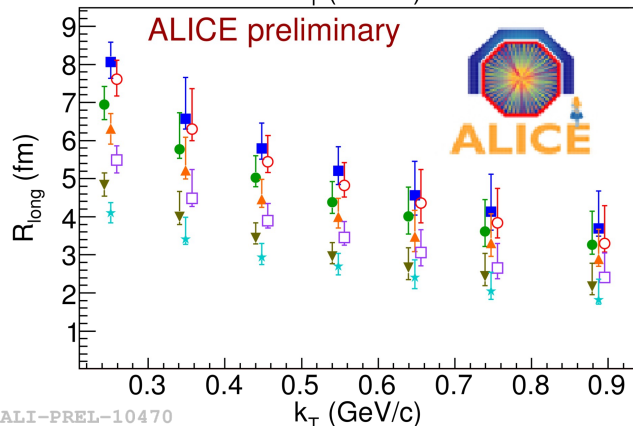
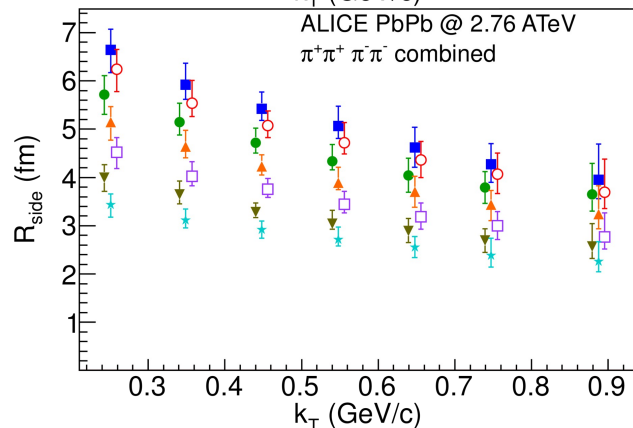
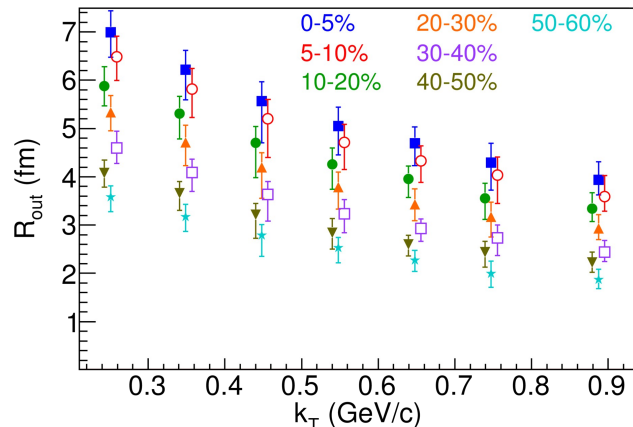


ALICE group members and activity

- 2 faculty members, 2 permanent staff, 5 PhD students, 5 undergraduate students
- Main physics topics within the group:
 - Analysis of the two-particle correlations – femtoscopic measurements for identical and non-identical mesons and baryons as well as angular correlations for (non-)identified particles
 - Model calculations for heavy-ion collisions at the LHC energies, providing predictions for correlation measurements
 - Work on the methodology of the femtoscopic measurement
- Other organizational and technical activities in the ALICE Collaboration
 - Data Quality Monitoring and Event Visualization software

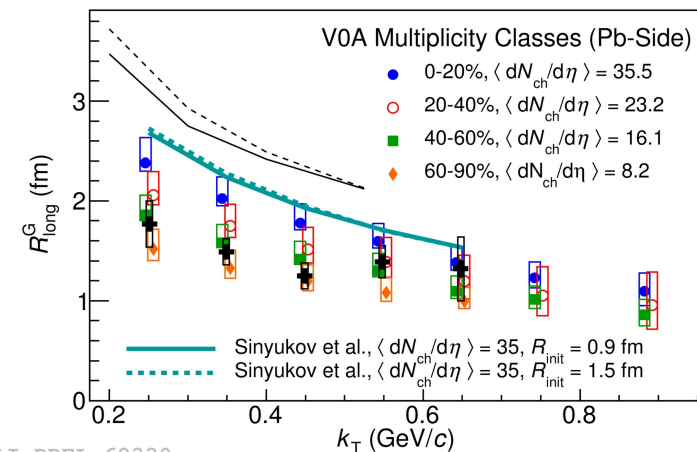
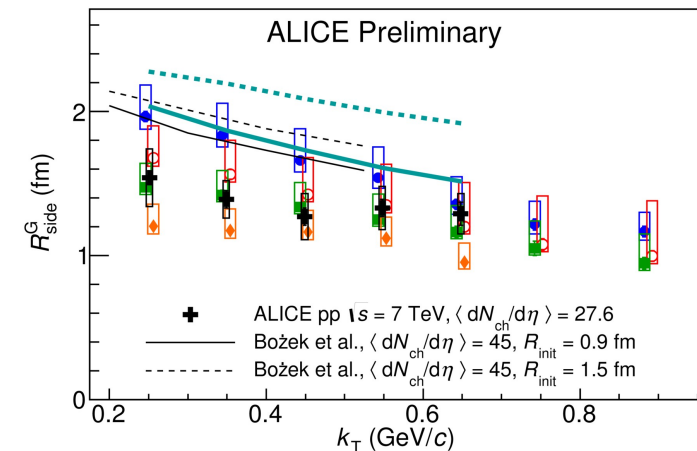
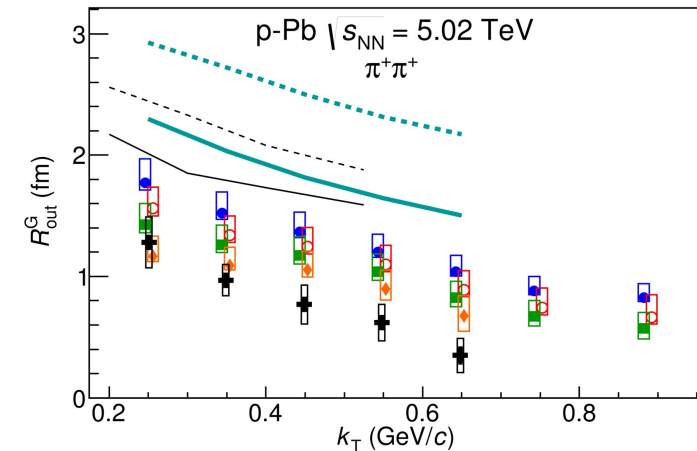
3D pion femto in ALICE



- Measurement of femto radii for pions vs. pair momentum and event multiplicity
- Scaling with multiplicity and pair transverse mass observed
- Reasonable agreement with hydrodynamic predictions, confirmation of the collective behavior of matter in central Pb-Pb collisions in ALICE

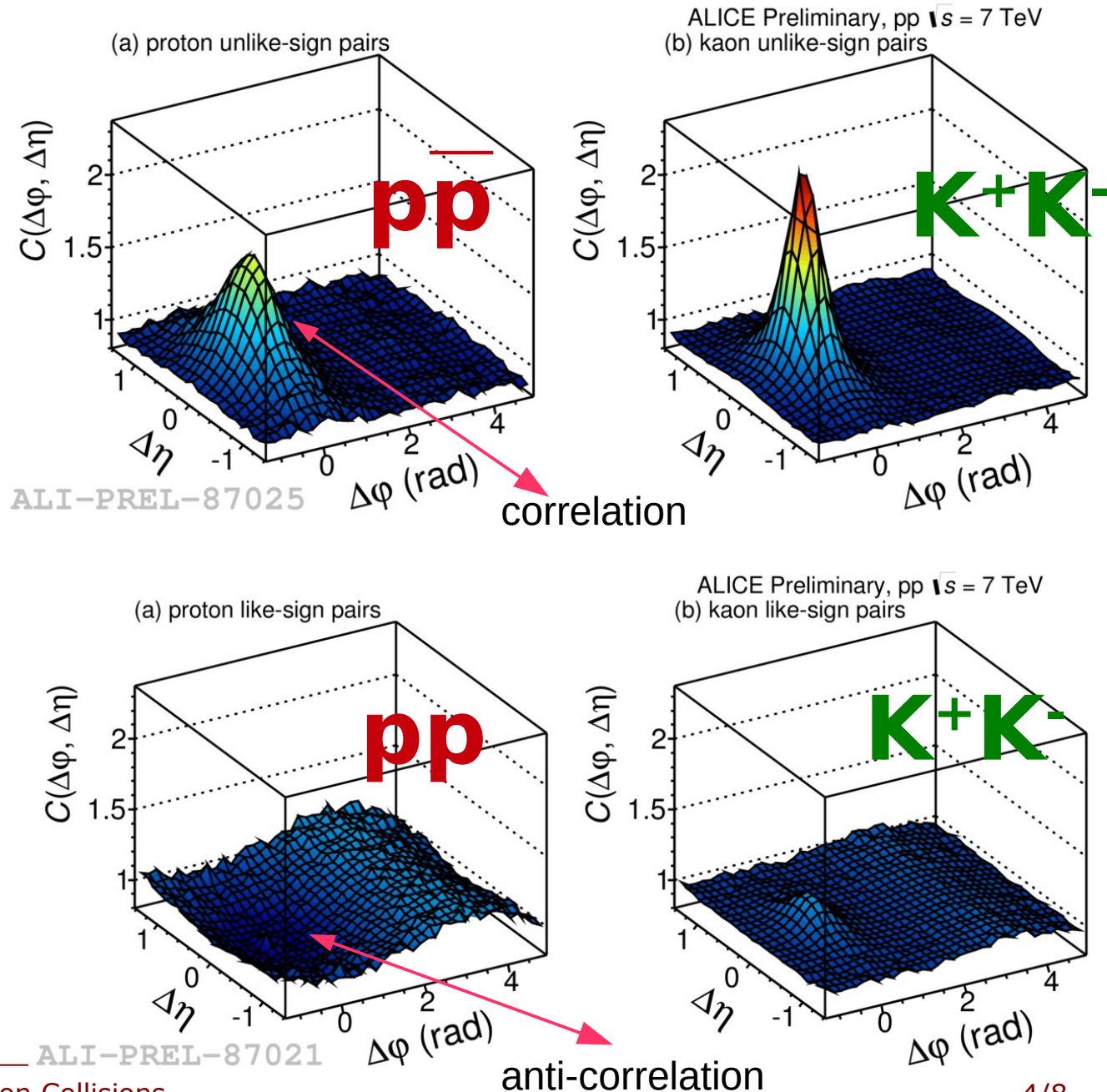
Femtoscscopy in p-Pb collisions

- p-Pb radii obtained in 4 multiplicity classes and 7 k_T ranges.
- All radii grow with event multiplicity.
- pp radii are smaller by $\sim 10-20\%$ compared to p-Pb at similar (high) multiplicity.
- Results are compared to two hydrodynamic predictions:
 - R_{out} predictions universally higher,
 - R_{side} predictions in good agreement with data,
 - R_{long} – calculations from Božek higher $\sim 30\%$, Sinyukov only slightly higher.

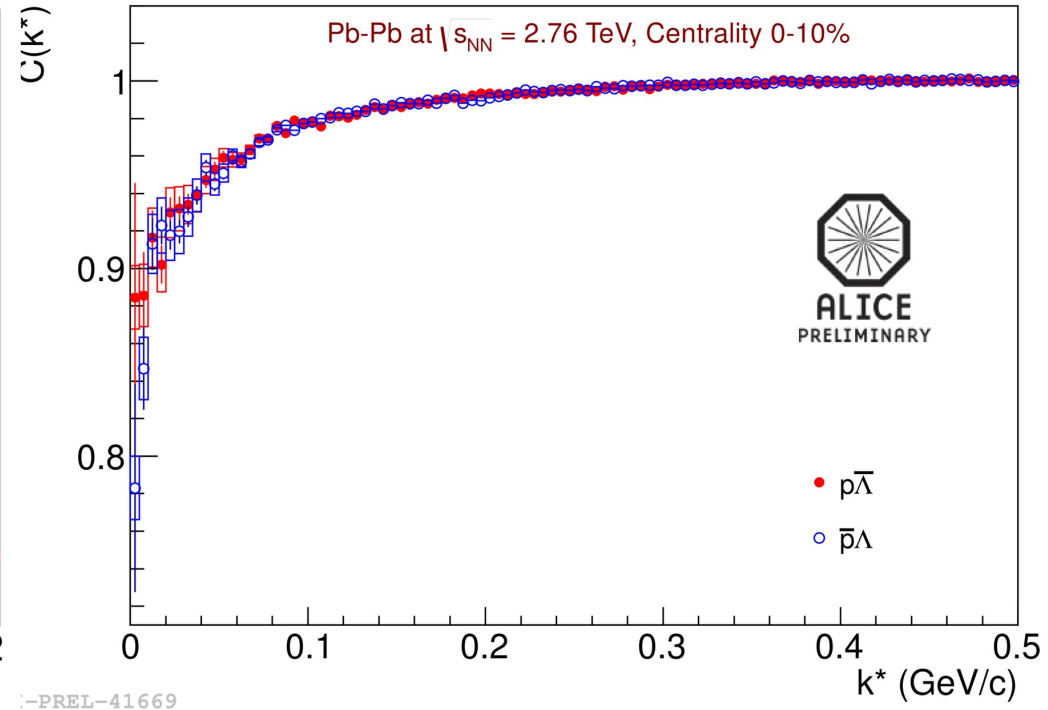
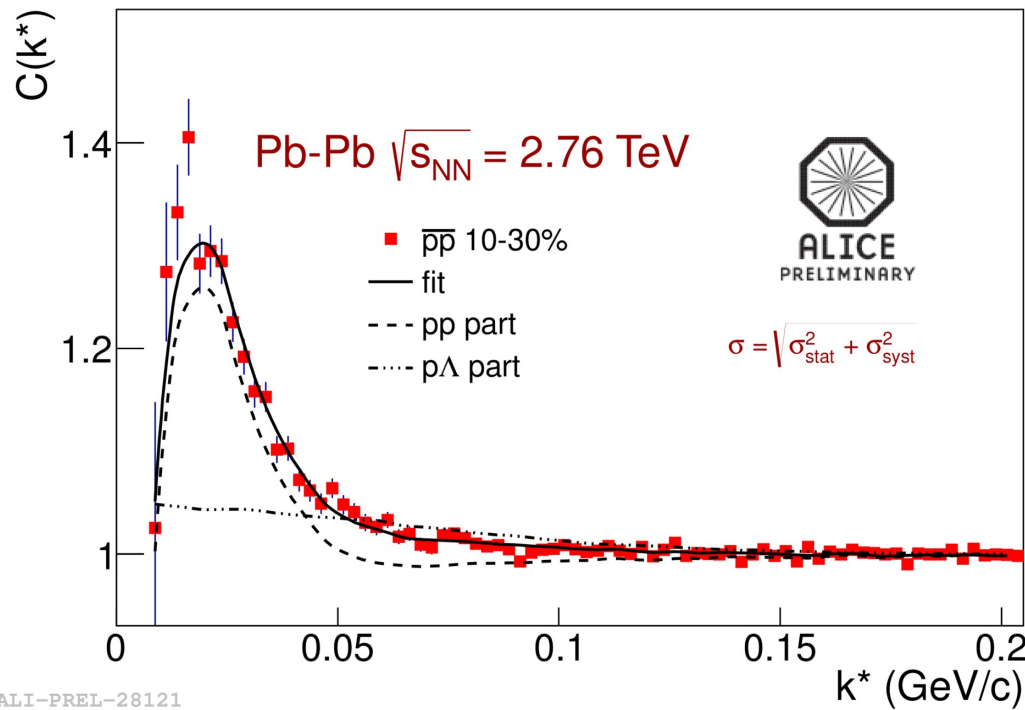


Angular correlations of identified hadrons

- $\Delta\eta\Delta\phi$ are used to characterize different correlation sources
- Conservation laws important for identified particle correlations: less identical particles in the same phase space
- Possible to put constraints on baryon production mechanisms in models

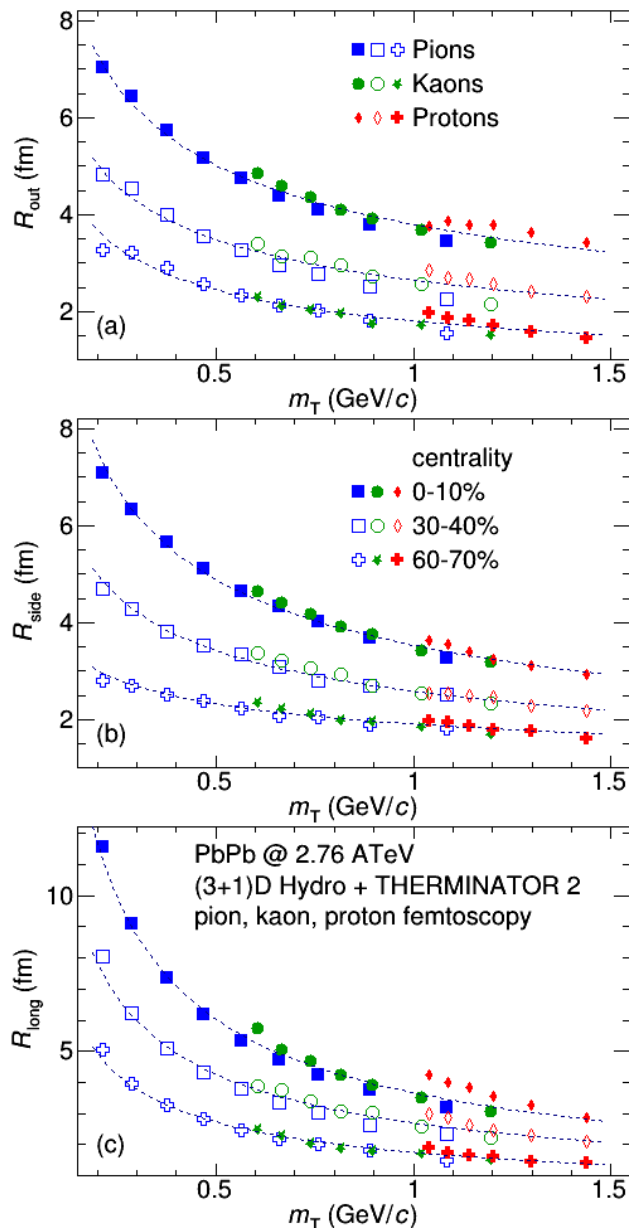


Baryon femtoscscopy



- Measurement of the source size for heavy particles
- Important contributions from residual correlations
- Sensitivity of the correlation to the strong interaction potential

Femto for AA at LHC from hydro



- The calculation in (3+1)D hydrodynamics + Therminator 2 for pions, kaons and protons
- Expected scaling with pair transverse mass, common for all particle types observed in all directions
- Also linear scaling on multiplicity observed
- Important baseline for planned measurements of 3D radii for pions, kaons, and protons in ALICE

A. Kisiel, M. Gałażyn, P. Bożek, Phys. Rev. C90 064914 (2014)

2nd Warsaw Meeting on Particle Correlations (2002)





11th Workshop on Particle Correlations
And Femtoscopy

at

Warsaw University of Technology

2-6 November 2015

after

Quark Matter 2015 – 27.09-3.10.2015

Including the celebration of
Jan Pluta's 70th birthday