Contribution ID: **8** Type: **not specified**

Observables and initial conditions for a three dimensionally expanding, rotating exact solution of hydrodynamics

Wednesday, 17 September 2014 10:00 (30 minutes)

I plan to present a recently found family of exact and rotating solutions of non-relativistic hydrodynamics [1] and evaluate the observables (single particle spectra, elliptic flow, Bose-Einstein correlations or HBT radii) from the model, and study their dependence of the initial conditions and on the equations of state.
If time permits I will also briefly review what is known about exact and analytic solutions of hydrodynamics both in the relativistic and in the non-relativistic kinematic domain and where are the white, not yet explored territories on this map of exact solutions. I will also present a family of exact solutions of 3 dimensionally expanding,
ellipsoidally symmetric solutions of the equations of viscous hydrodynamics.

This talk will be dedicated to the birthday of Laszlo P. Csernai.

References:
[1] T. Csörgő and M. I. Nagy, Phys.Rev. C89 (2014) 044901
[2] L.P. Csernai, D.J. Wang and T. Csörgő. Phys. Rev. C 2014 in press
[3] T. Csörgő, M. I. Nagy and I. Barna, in preparation
[4] T. Csörgő, in preparation

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