

25th November 2021

Terzo incontro di fisica con ioni pesanti alle alte energie



Global properties from pp to AA
Space time evolution
and temperature of QGP



SM of HI and temperature and QGP

Standard model of HI collisions is successful

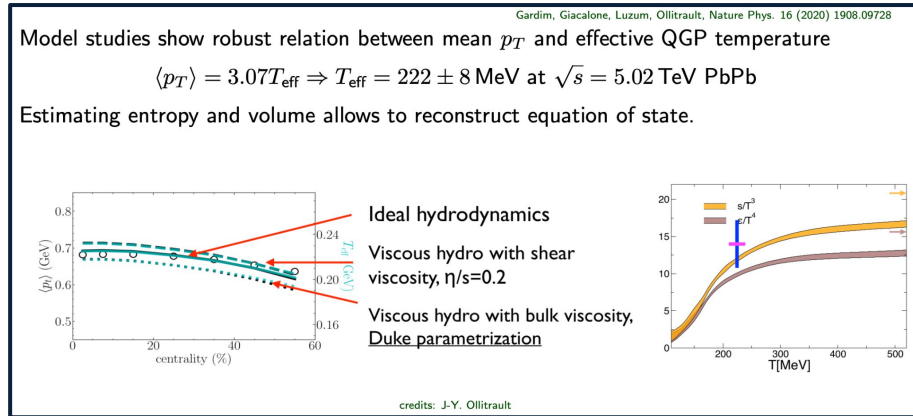
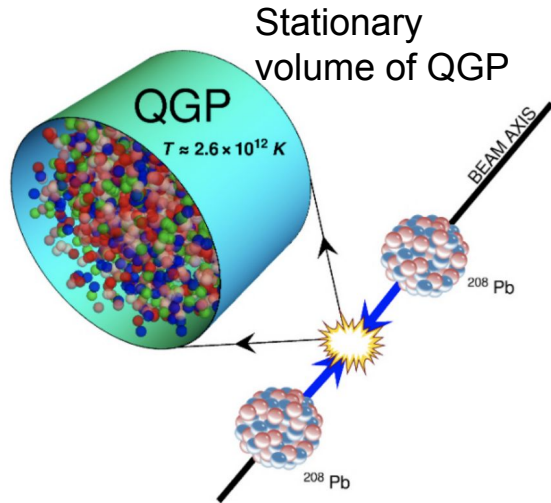
[link to presentation](#)

initial conditions

viscous hydrodynamics

hadron cascade

Can basic QGP thermodynamics be inferred directly from data? Temperature maybe yes



But: what is the most practical definition of temperature of an in- and out-of-equilibrium system?



Role of rapidity still under development

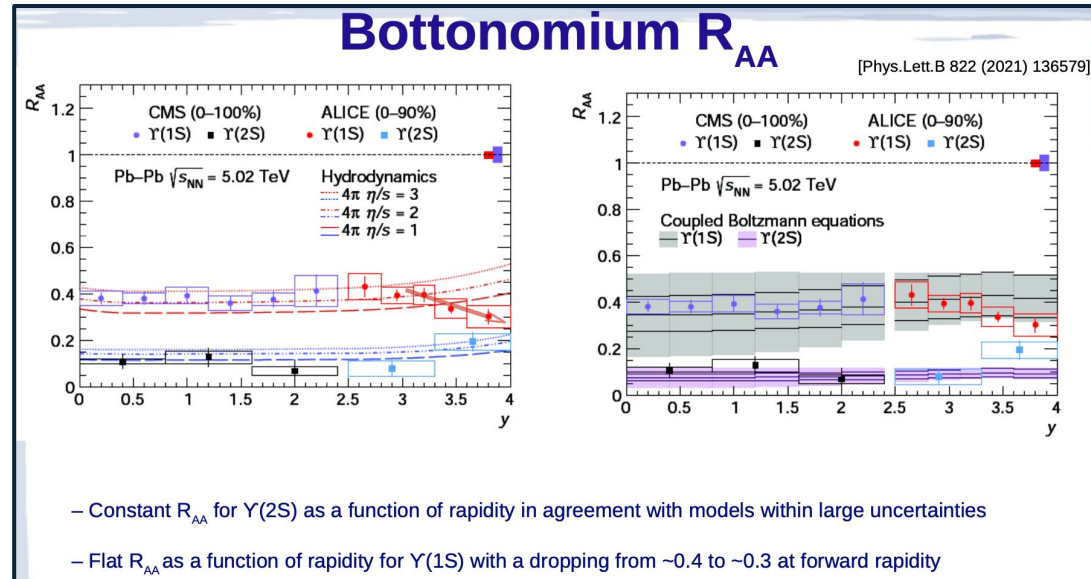
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What features of rapidity dependence are vital for physics interpretations and how to include them?

- Approximate boost-invariance \Rightarrow independence of η at mid-rapidity.
- Large system \approx transversely homogeneous \Rightarrow independence of x, y

These are theoretical idealisations

\Rightarrow **watch out when making comparisons to data**





Discussion items: some food for thinking

- Is it possible to relate bottomonia to temperature?

- What about flow of bottom?
Precision measurements are needed → now v_2 consistent with zero

