

The model predicts even the experimentally observed correlations between peripheral heavy ion and pp collisions. Such a correlation is alien to any hydrodynamical approach. Also the larger  $v_2/\epsilon_{part}$  value for CuCu as compared to AuAu for the same number of  $N_{part}$  questions whether the centrality dependence of  $v_2/\epsilon_{part}$  can be related to the viscosity of the plasma.

The success of the core - corona model suggests the following reaction scenario: The experimental data are a superposition of two contributions: a corona contribution which is given by pp physics and a core contribution which agrees with the assumption that the core forms an equilibrated source. The data are compatible with the assumption that the properties of this source are indepen-

dent of centrality. A centrality dependence of observables appears because the relative fraction of core and corona contribution varies with centrality. Core particles are in statistical equilibrium. Their interaction with corona particles as well as the interaction among corona particles has to be unimportant otherwise momentum would be transferred between the different species and eq. 2 would not be valid anymore. This suggest also a very limited number of collisional interactions between hadrons from core and corona.

Acknowledgements: We would like to thank Drs. R. Bellwied, M. Estienne, U. Heinz, J.Y. Ollitrault, S. Shi, R. Snellings, A. Timmings for valuable discussions.

- 
- [1] K. Werner, Phys. Rev. Lett. **98**, 152301 (2007) [arXiv:0704.1270 [nucl-th]].
  - [2] J. Aichelin and K. Werner, Phys. Rev. C **79** (2009) 064907 [Erratum-ibid. C **81** (2010) 029902] [arXiv:0810.4465 [nucl-th]].
  - [3] H. J. Drescher, A. Dumitru, C. Gombeaud and J. Y. Ollitrault Phys. Rev. C **76**, 024905 (2007) [arXiv:0704.3553 [nucl-th]].
  - [4] M. Luzum and P. Romatschke Phys. Rev. C **78**, 034915 (2008) [Erratum-ibid. C **79**, 039903 (2009)] [arXiv:0804.4015 [nucl-th]].
  - [5] H. Song and U. W. Heinz Phys. Rev. C **78**, 024902 (2008) [arXiv:0805.1756 [nucl-th]].
  - [6] T. Anticic *et al.* [NA49 Collaboration] arXiv:0906.0469 [hep-ex]
  - [7] B. I. Abelev *et al.* [STAR Collaboration] Phys. Rev. C **79**, 034909 (2009) [arXiv:0808.2041 [nucl-ex]].
  - [8] B. I. Abelev *et al.* [STAR Collaboration], Phys. Rev. C **79** (2009) 064903 [arXiv:0809.4737 [nucl-ex]].
  - [9] B. I. Abelev *et al.* [STAR Collaboration] Phys. Lett. B **673**, 183 (2009) [arXiv:0810.4979 [nucl-ex]].
  - [10] M. Estienne, PhD Thesis, University of Nantes,
  - [11] A. Timmins, STAR collaboration, private communication
  - [12] S. S. Adler *et al.* [PHENIX Collaboration], Phys. Rev. C **69** (2004) 034909 [arXiv:nucl-ex/0307022].
  - [13] B. I. Abelev *et al.* [STAR Collaboration] Phys. Rev. C **75**, 064901 (2007) [arXiv:nucl-ex/0607033]
  - [14] B. Alver *et al.* [PHOBOS Collaboration] Phys. Rev. Lett. **98**, 242302 (2007) [arXiv:nucl-ex/0610037]
  - [15] B. I. Abelev *et al.* [STAR Collaboration] Phys. Rev. C **77**, 054901 (2008) [arXiv:0801.3466 [nucl-ex]].
  - [16] C. Alt *et al.* [NA49 Collaboration] Phys. Rev. C **68**, 034903 (2003) [arXiv:nucl-ex/0303001]
  - [17] S.S. Shi (STAR collaboration), private communication