Abstract Submitted
for the APR05 Meeting of
The American Physical Society

The effect of chemical freezeout on transverse dynamics in relativistic heavy ion collisions TETSUFUMI HIRANO, MIKLOS GYULASSY, Columbia University — We show that chemical freezeout plays a very important role not only in the particle ratios but also in the transverse expansion in relativistic heavy ion collisions. Mean transverse momentum $\langle p_T \rangle$ of pions increases with the proper time in chemical equilibrium. In hydrodynamic simulations with chemical equilibrium, one makes full use of the above behavior of $\langle p_T \rangle$ to reproduce p_T spectra and $v_2(p_T)$ at the cost of particle yields. However, $\langle p_T \rangle$ decreases with proper time when one properly takes account of chemical freezeout in hydrodynamic simulations. Thus hydrodynamic results with chemical freezeout turn out to deviate from experimental data. This suggests the importance of viscosity in hadronic fluids.

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Date submitted: 11 Jan 2005 Electronic form version 1.4