Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Calculation of the thermal properties of the QGP with 2D viscous hydrodynamics with LQCD equation of state, pre-equilibrium flow, and cascade freeze-out RON SOLTZ, MICHAEL CHENG, JASON NEWBY, ANDREW GLENN, LLNL, SCOTT PRATT, MSU — Several recent developments nuclear theory have made it possible to calculate the thermal properties (spectra, flow, and HBT) of the QGP created at the Relativistic Heavy Ion Collider with a reasonable chance of success. We have incorporated these developments into a multi-stage model that incorporates pre-equilibrium flow into the UVH2+1 viscous hydrodynamic model that includes the recent HotQCD equation of state and uses UrQMD cascade for the final state particle distributions. With this model we will investigate the sensitivity to initial conditions and the equation of state. Results from the model will be compared to recent measurements of spectra, flow, and HBT from the Relativistic Heavy Ion Collider.

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Date submitted: 02 Jul 2009 Electronic form version 1.4