Abstract Submitted
for the DNP08 Meeting of
The American Physical Society

Systematic Comparison of Jet Energy-Loss Schemes in a 3D hydrodynamic medium STEFFEN BASS, Duke University, CHARLES GALE, McGill University, ABHIJIT MAJUMDER, Duke University, CHIHO NONAKA, Nagoya University, GUANG-YOU QIN, McGill University, THORSTEN RENK, University of Jyvaskyla, JOERG RUPPERT, McGill University — We perform a systematic comparison of jet energy-loss calculations in the BDMPS/ASW, HT and AMY approaches. Since we use identical medium evolution in all three approaches we are in a unique position to isolate differences among the three calculations solely due to their energy-loss implementation. We find that the parameters of all three calculations can be adjusted to provide a good description of inclusive data on R_{AA} versus transverse momentum. However, we do observe slight differences in their predictions for the centrality- and azimuthal angular dependence of R_{AA} vs. p_T. We also note that the value of the transport coefficient $\hat{q}$ needed in the three approaches to describe the data differs significantly. We shall attempt to shed some light onto this $\hat{q}$-*puzzle*.

Steffen Bass
Duke University

Date submitted: 13 Aug 2008 Electronic form version 1.4