Abstract Submitted for the DNP06 Meeting of The American Physical Society

Finite Size Effects on Dilepton Properties in Relativistic Heavy Ion Collisions TRENT STRONG, HENDRIK VAN HEES, RALF RAPP, Texas A&M University — In order to understand better the basic properties of matter at the subnuclear level, relativistic heavy-ion collision experiments are utilized to explore the interactions of strongly interacting particles in hot and dense matter. A particularly valuable probe is dilepton radiation, since leptons do not strongly interact and therefore transmit direct information from the medium in which they were produced, in particular on the in-medium properties of vector mesons. Thus, electromagnetic probes could greatly enhance our understanding of the QGP and the relevant processes within, including information about phase transitions. Accordingly, the intent of this project has been to study recent data from the NA60 experiment and account for the observed dilepton spectrum by means of a two component model, which treats the spectra as being produced from separate thermal and non-thermal hadronic sources and aims to provide a consistent description of both invariant-mass and momentum spectra.

> Trent Strong Texas A&M University

Date submitted: 01 Aug 2006

Electronic form version 1.4