Contribution ID: **42** Type: **Oral**

Strongly Coupled Υ(1S) Suppression in $\sqrt{s}_{NN} = 2.76$ TeV Pb+Pb Collisions

Tuesday, 4 December 2018 15:40 (20 minutes)

In a revolutionary paper, Matsui and Satz proposed using the suppression of quarkonia as a smoking gun signature of deconfinement in relativistic heavy ion collisions. The stunning success of using strong-coupling, AdS/CFT techniques to predict the viscosity to entropy density ratio extracted from RHIC and LHC heavy ion collision data using sophisticated 3+1D relativistic viscous hydrodynamics has prompted further investigation into the physics of a strongly-coupled plasma. We compute, for the first time, the suppression of bottomonia in a strongly coupled QGP, and compare the results to those from a weakly coupled QGP and to data. The complex binding energies which inform the thermal width and hence the R_{AA} of Υ(1S) are determined using imaginary time techniques. Further, we discuss the validity of this methodology which solves for strongly coupled binding energies using static $q\bar{q}$ potential models from AdS/CFT by comparing to independent results.

Primary author: BARNARD, Nadia (University of Cape Town)

Co-author: HOROWITZ, William (University of Cape Town)

Presenter: BARNARD, Nadia (University of Cape Town)

Session Classification: Parallel 04