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## **Bottomonium production in coupled Langevin and transport approach**

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In heavy ion collisions, quarkonium is produced in a rapidly thermalized deconfined medium. Quarkonium production can be understood in terms of Langevin dynamics of heavy quarks interacting through medium modified potential [1]. This framework was used successfully to understand charmonium production at RHIC [1,2] including recombinant production [2] when realistic values of the heavy quark diffusion constant are used together with a lattice QCD inspired potential. It also explains the J/psi production at LHC including its centrality independence [3].

We extend this framework to upsilon production by including the thermal dissociation of formed bottomonia. This is done with a transport (local rate) equation followed by Langevin dynamics of the correlated  $Q\bar{Q}$  states. The bulk evolution of the medium is treated using MUSIC, a 3+1-dimensional hydrodynamical simulator of heavy ion collisions, while we make use of the latest lattice results on the  $Q\bar{Q}$  potential. We make prediction for the bottomonium production at full LHC energy.

[1] C. Young and E. Shuryak, Phys.Rev. C79 (2009) 034907

[2] C. Young and E. Shuryak, Phys.Rev. C81 (2010) 034905

[3] C. Young et al, Phys.Rev. C86 (2012) 034905

### **On behalf of collaboration:**

NONE

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