Contribution ID: **12** Type: **not specified**

# Upsilon production at the STAR experiment

*Wednesday 14 September 2016 10:35 (20 minutes)*

The production of quarkonia in high-energy heavy-ion collisions is expected to be sensitive to the energy density of the medium due to color screening of the quark-antiquark binding potential. Sequential suppression of different quarkonium states may therefore serve as a thermometer of the medium. Although the suppression of charmonia was anticipated as a key signature of the quark-gluon plasma formation, the recombination of uncorrelated $c\bar{c}$ pairs in the medium complicates the picture. Bottomonia, on the other hand, are less affected by recombination and thus provide a cleaner probe of the strongly interacting medium. Recent STAR results show that in central Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV, the Upsilon 1S state is suppressed beyond the mere cold nuclear matter effects, and the yields of the excited states are consistent with a complete suppression.
STAR collected data in U+U collisions at $\sqrt{s_{NN}} = 193$ GeV triggered by high-energy electrons with an integrated luminosity of 263.4 $\mu b^{-1}$. The energy density in central U+U collisions is estimated to be about 20% higher than that in $\sqrt{s_{NN}} = 200$ GeV central Au+Au data. Studies of quarkonium production in U+U collisions can therefore serve as further tests of the sequential suppression hypothesis. The latest results for the nuclear modification factors of the Upsilon 1S state, as well as all three states together, will be presented as a function of number of participants in U+U and Au+Au collisions, and compared to theoretical calculations.
The Muon Telescope Detector (MTD), completed in 2014, allows for measurements of Upsilon's with better precision through the muon decay channel. Recent measurements of Upsilon production using the MTD will also be presented.

## Summary

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**Session Classification:** Wednesday morning