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## CMS bottomonia results from Run I

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Bottomonia are important probes of the quark-gluon plasma since they are produced at early times and propagate through the medium, mapping its evolution. The production cross section of the three Y states (1S, 2S, 3S) was measured separately using the Compact Muon Solenoid (CMS) experimental apparatus, in pp and PbPb collisions at 2.76 TeV. A strong suppression is observed in PbPb collisions, by up to a factor of 2 and 10 for the Y(1S) and Y(2S) respectively. The Y(3S) was not observed in PbPb collisions, being suppressed by more than 7 at the 95% confidence level. This suppression was seen to also depend on centrality, but not significantly on transverse momentum or rapidity. A similar suppression pattern of the excited states (2S and 3S) as compared to the ground state (1S), though less pronounced than in PbPb data, was observed also when analyzing the pPb data at 5.02 TeV center of mass collision energy. A surprising dependence of the excited over the ground state ratio, as a function of the global event activity, was also found in pPb data. The three states are also observed to be individually more produced in events with more activity, for the three collision systems. In this talk we will present the final CMS results on bottomonium production in the three collisions systems.

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

CMS

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