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## Heavy Flavor measurements and production studies at CMS

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Using data collected by the CMS experiment at the LHC, we performed precise measurements of decay properties of hadrons containing a b quark. The lifetime is a fundamental property of particles and an important observable in heavy hadrons physics. We measured this quantity for various b-hadrons at the precision of the world average. These measurements will allow to test QCD inspired theoretical models. We have also measured the differential prompt production cross sections of  $J/\psi$ ,  $\psi(2S)$ , and  $Y(nS)$  ( $n = 1, 2, 3$ ) vector mesons in pp collisions at 13 TeV. These results will contribute to consolidate the underlying hypotheses of NRQCD and provide further input to constrain the theory parameters.

**Primary author:** Dr MEJIA, Jhovanny (Cinvestav Mexico City)

**Presenter:** Dr MEJIA, Jhovanny (Cinvestav Mexico City)

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