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Heavy Flavor Production in Heavy Ion Collisions at CMS (15' + 5')

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Studies of Heavy flavor production are of great interest in heavy ion collisions. In the produced medium, the binding potential between a quark and antiquark in quarkonium is screened by surrounding light quarks and antiquarks. Thus, the various quarkonium states are expected to be melt at different temperatures depending on their binding energies, which allows us to characterize the QCD phase transition. In addition, open heavy flavor production are relevant for flavor-dependence of the in-medium parton energy loss. In QCD, gluons are expected to lose more energy compared to quarks when passing through the QGP due to the larger color charge. Compared to light quarks, heavy quarks are expected to lose less radiative energy because gluon radiation is suppressed at angles smaller than the ratio of the quark mass to its energy. This "dead cone"effect (and its disappearance at high transverse momentum) can be studied using open heavy flavor mesons and heavy flavor tagged jets. With CMS detector, quarkonia, open heavy flavor meson and heavy flavor tagged jet spectra are studied with high precision. In this talk, recent results from pp, pPb and PbPb at 2.76 and 5.02 TeV collisions are presented.

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