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J/ψ production in the Statistical Hadronization Model - limitations and implications

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Using a Statistical Hadronization Model which includes charmed hadrons and charmonia, we describe thermal J/ψ production on the hadronic as well as the partonic level under the assumption of detailed balance and entropy conservation. We investigate the dependence of the J/ψ multiplicity on the primary model parameters, the freeze-out temperature and the baryochemical potential.

We find a very strong dependence on the charm quark mass for the partonic description and discuss the implications for the effective dressed mass of the charm quark.

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