

Abstract for an Invited Paper
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Production of heavy quarks in high energy nuclear collisions

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Studying heavy quarks and quarkonia is one of the most efficient tools for analyzing the properties of the dense nuclear matter formed in high energy nuclear collisions. In my talk I will review the current theoretical understanding of the open and hidden flavor production mechanisms, discuss the outstanding problems and report on the recent progress in unveiling the role of the quantum coherence in high energy quarkonium production.