Heavy Flavour Production in $Au+Au$ collisions at STAR/RHIC

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Comparison of heavy flavour production in $Au+Au$ and $p+p$ collisions is regarded one of the most important test cases in the search for the quark-gluon plasma. On the one hand, resonance formation (e.g. J/Ψ, Υ) is predicted to be suppressed due to color-screening, while on the other hand open charm and beauty production is predicted to be enhanced due to high temperature in the initial system.

In the last two years, the STAR (**S**olenoidal **T**racker **a**t **R**HIC) detector at the RHIC (Relativistic Heavy Ion Collider) accelerator at Brookhaven National Laboratory, New York, has recorded millions of Au+Au collisions at $\sqrt{s}$=130 GeV and 200 GeV.

The main STAR subdetector is a large acceptance cylindrical TPC (Time Projection Chamber, L=4 m, 50,000,000 pixels) in a magnetic field of B=0.5 T. A central $Au+Au$ collision typically contains about 100,000 TPC clusters and 2,000 charged tracks.

A high level trigger system enabled the enhancement of rare heavy flavour events. By full event reconstruction (p_T and dE/dx for each track) and calculation of invariant mass in realtime, a search for Υ(1s,2s,3s)$\rightarrow e^+e^-$, $\mu^+\mu^-$ was performed.

Status and prospects for measurement of J/Ψ, Υ, D and B_c production as well as the main background processes (Drell-Yan, $b\rightarrow J/\Psi X$ inclusive, $\pi^+\pi^-$ pairs from hard parton scattering) will be discussed.

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