



国立研究開発法人理化学研究所 仁科加速器研究センター
第225回 RIBF核物理セミナー
RIKEN Nishina Center for Accelerator Based Science
The 225th RIBF Nuclear Physics Seminar

Measurement of single electrons from semileptonic charm and bottom hadron decays in Au + Au collisions at RHIC-PHENIX

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A quark-gluon plasma (QGP) is a state of matter in which quarks and gluons are deconfined under extremely hot and dense conditions. QGP can be created in high energy heavy ion collision. Heavy quark is a clean probe to study the characteristics of QGP.

In the previous PHENIX measurement, a strong suppression of single electrons from semileptonic decays of heavy quark hadrons including charms and bottoms at high p_T has been observed.

To further understand the heavy quark suppressions, PHENIX installed the silicon vertex detector (VTX) which allows us to measure the bottom and charm contributions separately from the measurement of displaced tracks. For the first time, the relative contributions from charm and bottom hadrons to these electrons are measured in Au + Au collisions. By comparing the fraction in p + p collisions, we find that electrons from bottom hadron decays are less suppressed than those from charm for the region $3 < p_T < 4$ GeV/c.

In this talk, these results will be discussed and compared with theoretical calculations.

* The talk will be given in English language..

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