

# Comments

Referee 1:

Referee's report on epjconf211077 by Shenghui Zhang (for the STAR Collaboration)

"Measurements of electrons from heavy-flavor hadron decays in 27, 54.4, and 200 GeV Au+Au collisions in STAR"

Executive summary

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The paper presents STAR's measurements of the nuclear modification factors of electrons from open charm and bottom hadron decays in Au+Au collisions at 200 GeV at a mid-rapidity region. Furthermore, the paper presents STAR's preliminary results of HFE elliptic flow in Au+Au collisions at 27 and 54.4 GeV compared to published results of Au+Au at 200 GeV. This paper is suitable for the SQM proceeding but the manuscript for the final publication of results of HFE v2 in a journal would need significant improvement/refinement first, mainly in determining more rigorously the quantitative significance of the results.

Text remarks:

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\* L7: "mid-rapidity in  $\sqrt{s(NN)} = 200$  GeV Au+Au collisions."

Replace by:

mid-rapidity region in Au+Au collisions at  $\sqrt{s(NN)} = 200$  GeV.

\* L9: "hadron decays at  $\geq 3\sigma$  significance level."

This statement is not clear. I would suggest to use standard deviations of the mean.

\* L24: "In these proceedings, we focus on measurements of production of electrons from open charm and bottom hadron decays in  $\sqrt{s(NN)} = 200$  GeV Au+Au collisions and their  $v_2$  in  $\sqrt{s(NN)} = 27$  and 54.4 GeV Au+Au collisions."

This paragraph is confusing; what do you mean by "their". I would suggest rewriting this paragraph clearly and point out if these measurements are preliminary, or they are published. If they are published, add the reference(s) in the paragraph. However, if they are preliminary, states in this paragraph in the text, they are preliminary.

\* Resolutions of the figures in Fig2 are not good (it seems you are using a screenshot). I think you need to use the original figures. These are STAR's figures; the figures should be available in STAR's database.

\* L68: "are shown for 20%/40-80%,"

you mean: 0-20%/40-80%,

# Reply

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I would like to thank the referee for carefully reviewing my manuscript and providing me valuable comments which help to improve the proceeding significantly. Please find the replies to the nice comment below.

\* L7: "mid-rapidity in  $\sqrt{s_{NN}} = 200$  GeV Au+Au collisions."

Replace by:

mid-rapidity region in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV.

A: Fixed.

\* L9: "hadron decays at  $\geq 3\sigma$  significance level."

This statement is not clear. I would suggest to use standard deviations of the mean.

A: I have changed "The results indicate less suppression for electrons from bottom hadron decays than for those from charm hadron decays at  $\geq 3\sigma$  significance level. " to "The significance of the difference in nuclear modification factors between  $b \rightarrow e$  and  $c \rightarrow e$  is  $\geq 3\sigma$ ."

\* L24: "In these proceedings, we focus on measurements of production of electrons from open charm and bottom hadron decays in  $\sqrt{s_{NN}} = 200$  GeV Au+Au collisions and their  $v_2$  in  $\sqrt{s_{NN}} = 27$  and  $54.4$  GeV Au+Au collisions."

This paragraph is confusing; what do you mean by "their". I would suggest rewriting this paragraph clearly and point out if these measurements are preliminary, or they are published. If they are published, add the reference(s) in the paragraph. However, if they are preliminary, states in this paragraph in the text, they are preliminary.

A: I have changed it to "In these proceedings, we present preliminary results on the production of electrons from open charm and bottom hadron decays in  $\sqrt{s_{NN}} = 200$  GeV Au+Au collisions, as well as inclusive heavy-flavor electron (HFE)  $v_2$  in  $\sqrt{s_{NN}} = 27$  and  $54.4$  GeV Au+Au collisions. "

\* Resolutions of the figures in Fig2 are not good (it seems you are using a screenshot). I think you need to use the original figures. These are STAR's figures; the figures should be available in STAR's database.

A: I have updated the figure.

\* L68: "are shown for 20%/40-80%,"

you mean: 0-20%/40-80%,

A: Yes, I have changed it to "are shown for 0-20%/40-80%,"