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Ground vibration studies in the RHIC tunnel in view of EIC

Wednesday 13 August 2025 16:00 (2 hours)

As beam sizes get smaller at the collision point, the environment vibrations and their amplification through the accelerators supporting structures need more careful considerations. Indeed these mechanical disturbances can produce a beam orbit jitter that is detrimental to a collider operation, through loss of luminosity or increased beam-beam effects.
In preparation for EIC, measurements of the ground vibration environment in the RHIC tunnel were carried out. This paper will summarize the measurement methodology and present its main results. The expected effect on the hadron and electron beam jitter will be described and we will discuss some design consideration on the new electron ring magnet supports to mitigate this effect.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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