NAPAC25 - North American Particle Accelerator Conference 2025



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Type: Poster Presentation

NSLSII RF-Shielded Bellows Offset Testing

Wednesday 13 August 2025 16:00 (2 hours)

The NSLSII storage ring contains over 180 RF shielded bellows over its 792 m circumference. Three of these bellows are instrumented with RTD temperature sensors on the internal components to monitor and validate expected performance. The temperature data showed an increasing internal temperature trend during successive 500mA beam operation on one of these bellows. This bellows and many other installed bellows throughout the ring, are near to or over the vertical and horizontal offset tolerance. Offsets can create an RF path between the sleeve and fingers, which raised concern there was degradation of performance resulting from the offset condition. The bellows was removed and inspected with some visual signs of discoloration and loose RTD anchor points were also observed. With the prospects of moving from 400mA to more permanent 500mA operation, a test was conducted to confirm internal temperatures were safe. Two fully instrumented bellows were remotely offset under steady beam operation while observing the internal temperatures. The bellows with offset geometry was also studied with GdfdL code. The experimental results will be presented and compared to the wake-potential calculations.

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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