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SOLEIL II BPMs development progress

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SOLEIL II is the low emittance upgrade project for Synchrotron SOLEIL, targeting an emittance of ~ 80 pm.rad. The new lattice includes 196 Beam Position Monitors (BPM) distributed in 3 different types depending on the vacuum chamber diameter.

To ensure consistent signal levels across varying pipe diameters, two button sizes were selected: 6 mm diameter for 16 mm beam pipes, and 7 mm diameter for the 20 mm and 24 mm sections. To optimize the BPM impedance, button shape is conical. Electromagnetic and thermal simulations have been conducted to validate the proposed designs. In parallel, prototypes have been installed and tested on the existing machine to confirm the simulation results and validate the design. This paper summarizes the simulation outcomes, and the test results obtained on the current machine.

Footnotes

Funding Agency

I have read and accept the Conference Policies

Yes

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