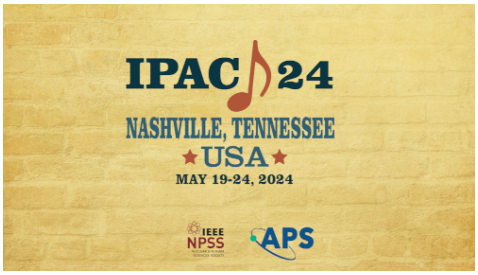

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Overview of beam intensity issues and mitigations in the CERN-SPS fast wire scanners

Wednesday, 22 May 2024 16:00 (2 hours)

A new design of fast wire scanner was installed in the CERN injector complex as part of the upgrades linked to the High-Luminosity LHC Project. Initial operations with these beams were good, but during the planned intensity ramp-up one early 2023, all four SPS scanners failed at the same time. An urgent program was put in place to understand and address this failure with experts from across the accelerator fields. Many measurements and simulations were performed and solutions implemented. This paper gives an overview of the issues seen, understanding and mitigations put in place to allow the instrument to perform at the maximum planned operational intensities.

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