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Status of the beam control renovation of the Proton Synchrotron at CERN

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The current beam control system of the Proton Synchrotron (PS) utilises multiple sub-systems with different controllers for each of the different beam types. While having a large flexibility, the current platform suffers from component aging/obsolescence and reproducibility issues due to the mix of analogue and digital modules. To address these issues, a new beam control system, implementing radial, phase and synchronization feedback loops in a single hardware platform is under development. The system will match or improve upon the current features and performance of the existing beam controllers. Additionally, the new beam control system will profit from past developments in the other injectors at CERN, enabling the re-use of hardware, firmware and software components.

Keyword

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