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【381】 The P^3 Experiment: A Positron Source Demonstrator at PSI in 2025

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The long-standing difficulty to handle the extreme e^+ emittance and energy spread generated at converter targets has been a major limiting factor for future large e^+ machine designs such as high-luminosity lepton colliders. The PSI Positron Production (P^3 or P^3) experiment, framed in the FCC-ee study, is a demonstrator for a e^+ capture system with potential to improve the state-of-the-art e^+ yield by an order of magnitude. The experiment will be hosted at the SwissFEL facility at PSI as of 2025, where installation works are ongoing. This presentation is an overview of P^3 , with a particular focus on the novel capture system, e^+ beam dynamics and experiment diagnostics.

Theoretical Work

Authors: SCHAER, Mattia; VALLIS, Nicolas (PSI/EPFL); CRAIEVICH, Paolo; ZENNARO, Riccardo

Presenter: VALLIS, Nicolas (PSI/EPFL)

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