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Raspberry Pi cameras for beam diagnostics at the Frankfurt Neutron Source

Thursday 5 June 2025 15:30 (2 hours)

The application of Raspberry Pi cameras as cost-effective, versatile beam diagnostic tools is currently being explored at the Frankfurt Neutron Source (FRANZ). These compact imaging systems have been deployed to investigate proton beams at energies of 60 keV and 700 keV, including configurations where cameras are installed both externally and directly inside the accelerator's RF resonator. Such setups provide opportunities to visualize beam profiles and related phenomena, potentially offering new insights into beam dynamics and cavity conditioning. This contribution will present the latest developments in camera integration, image acquisition, and preliminary image analysis techniques. By showcasing ongoing work and recent findings, we aim to highlight the potential of this approach for enhancing beam diagnostics in future accelerator environments.

Footnotes

Paper preparation format

LaTeX

Region represented

Europe

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