

Beam Instrumentation, 16 - 29 November 2025, Split, Croatia

Sunday 16 November 2025 - Saturday 29 November 2025

Book of Abstracts

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Arrival day and registration

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Opening

Author: Frank Tecker¹

¹ *CERN*

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Transverse beam dynamics recap I

Author: Hermann Schmickler^{None}

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Measurement Principles I

Author: Gero Kube^{None}

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Transverse beam dynamics recap II

Author: Hermann Schmickler^{None}

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Measurement Principles II

Author: Gero Kube^{None}

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Longitudinal beam dynamics recap

Author: Frank Tecker¹

¹ *CERN*

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One slide - one minute

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Time-and Frequency Domain signals I**Author:** Hermann Schmickler^{None}

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Transverse Profile Measurements I**Author:** Laura Torino^{None}

“Monitoring the transverse beam profile is a crucial aspect of accelerator operation. It is not only a necessary parameter for emittance measurement but also essential for assessing the health and performance of the entire accelerator system. This lecture will examine some of the most widely used transverse beam profile monitors, focusing on their underlying physical principles, their technical components and how they are integrated in accelerator machines.

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Time-and Frequency Domain signals II**Author:** Hermann Schmickler^{None}

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RF measurement techniques**Author:** Manfred Wendt^{None}

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Hands-on - Block I

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Hands-on - Block I

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Time-and Frequency Domain signals III

Author: Hermann Schmickler^{None}

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Transverse Profile Measurements II

Author: Laura Torino^{None}

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Introduction to Optics (basics, components, diffraction)

Author: Stephen Gibson^{None}

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BPM systems I

Author: Manfred Wendt^{None}

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Hands-on - Block I

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Hands-on - Block I

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Emittance Measurements

Author: Gero Kube^{None}

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BPM systems II

Author: Manfred Wendt^{None}

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Intensity Measurements

Author: Marek Gasior¹

¹ *CERN*

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Tune, Chromaticity & Coupling Measurements

Author: Rhodri Jones¹

¹ *CERN*

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Free / Study time

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Analog Digital Conversion

Author: Marek Gasior¹

¹ *CERN*

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Digital Signal Processing I

Author: Andrea Boccardi¹

¹ *CERN*

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Diagnostics in hadron synchrotrons and colliders

Author: Rhodri Jones¹

¹ *CERN*

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Digital Signal Processing II

Author: Andrea Boccardi¹

¹ *CERN*

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Hands-on - Block II

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Hands-on - Block II

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(Short) Bunch Length Measurements I

Author: Thibaut Lefevre¹

¹ *CERN*

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Optical detection techniques + Lasers

Author: Stephen Gibson^{None}

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Short Bunch Length Measurements II

Author: Thibaut Lefevre¹

¹ *CERN*

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Discussion / Q&A I

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Hands-on - Block II

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Hands-on - Block II

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Analog Electronics

Author: Jeroen Belleman^{None}

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Beam Loss Monitors

Author: Kay Wittenburg¹

¹ DESY

This lecture covers the fundamental aspects of the measurement of beam losses including their use for beam diagnostic and safety issues. The detailed functionality and detection principle of various common beam loss monitors are also presented, with a focus on their intrinsic sensitivity.

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Diagnostics in light sources I

Author: Lorraine Bobb^{None}

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Machine Protection

Author: Daniel Wollmann¹

¹ CERN

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Hands-on - Block III

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Hands-on - Block III

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Halo diagnostics

Author: Kay Wittenburg¹

¹ *DESY*

Beam halo measurements imply measurements of beam profiles with a very high dynamic range, both in transverse and longitudinal planes. This lesson gives an overview of high dynamic range instruments for beam halo measurements. In addition, halo definitions and quantifications in view of beam instrumentation are discussed.

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Diagnostics in lepton-linacs and FELs

Author: Rasmus Ischebeck¹

¹ *Paul Scherrer Institut*

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Diagnostics in light sources II

Author: Lorraine Bobb^{None}

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Diagnostics in Advanced Accelerator Experiments

Author: Rasmus Ischebeck¹

¹ *Paul Scherrer Institut*

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Hands-on - Block III

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Hands-on - Block III

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Free / Study time

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Hands-on - Block IV

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Hands-on - Block IV

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Precise Timing and Synchronization I

Author: Frank Ludwig^{None}

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Real-time Feedback on machine parameters

Author: Günther Rehm^{None}

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Precise Timing and Synchronization II

Author: Frank Ludwig^{None}

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Impact of collective effects on instrumentation design

Author: Christine Vollinger¹

¹ CERN

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Hands-on - Block IV

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Hands-on - Block IV

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Diagnostics for FCC-ee

Author: Thibaut Lefevre¹

¹ *CERN*

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Schottky Diagnostics I

Author: Diogo Alves¹

¹ *CERN*

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Machine learning applications in BI I

Author: Elena Fol^{None}

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Discussion / Q&A II

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Schottky Diagnostics II

Author: Piotr Kowina^{None}

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Machine learning applications in BI II

Author: Elena Fol^{None}

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Closing