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Remote sensing of fast beam signals using electro-optical modulators

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Electrical measurements of fast signals, as generated in particle accelerators, encounter severe limitations due to the high-frequency losses in RF transmission lines. This study describes measurements conducted with electro-optical modulators employing various radio-over-fibre techniques. Experimental data consist of different beam-generated signals, which underline the versatility of such a system. Signals from electromagnetic devices such as wall current monitors, as well as those captured from coherent transition radiation screens and coherent Cherenkov diffraction radiators, are presented. The potential deployment of such a remote sensing acquisition system in large-scale facilities is discussed.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

Primary author: SCHLOGELHOFER, Andreas

Co-authors: MAZZONI, Stefano (European Organization for Nuclear Research); LEFEVRE, Thibaut (European Organization for Nuclear Research); LEVENS, Thomas (European Organization for Nuclear Research)

Presenter: SCHLOGELHOFER, Andreas

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