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Continuous data-driven control of the GTS-LHC ion source at CERN

Monday, September 16, 2024 5:00 PM (1h 30m)

Recent advances with the CERN infrastructure for machine learning allows to deploy state-of-the-art data-driven control algorithms for stabilising and optimising particle accelerator systems. This contribution summarises the results of the first tests with different continuous control algorithms to optimise the intensity out of the CERN LINAC3 source. The task is particularly challenging due to the different latencies for control parameters that range from instantaneous response, to full response after only ~30 minutes. The next steps and a vision towards full deployment and autonomous source control will also be discussed.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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