Beitrag ID: **7** Typ: **Accelerator/experiment Optimisation**

ML/AI in accelerator operation at COSY

Dienstag, 29. Oktober 2024 17:00 (15 Minuten)

To improve beam quality and beam intensity at the Cooler Synchrotron COSY several machine learning and artificial intelligence projects were carried out. Highlights include:
- automated beam line control with Reinforcement Learning
- automated intensity optimisation with Bayesian Optimization for Arbitrary Targets
- improved agreement between machine and model with Genetic Optimization
A digital instance of one of the beamlines was created to test the algorithms independently from the availability of the machine. This basic digital twin offers the same interfaces as the real machine.

Hauptautor: HETZEL, Jan Henry (GSI Helmholtzzentrum für Schwerionenforschung GmbH(GSI))

Vortragende(r): HETZEL, Jan Henry (GSI Helmholtzzentrum für Schwerionenforschung GmbH(GSI))

Sitzung Einordnung: Session