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Type: **Poster Presentation**

## **Machine Learning based SRF cavity active resonance control**

*Monday 8 May 2023 16:30 (2 hours)*

We'll introduce a high precision active motion controller based on machine learning (ML) technology and electric piezo actuator. The controller will be used for srf cavity active resonance control, where a data-driven model for system motion dynamics will be developed first, and a model predictive controller (MPC) will be built accordingly. Simulation results as well as initial test results with real SRF cavity will be presented in the paper.

### **Funding Agency**

### **Footnotes**

### **I have read and accept the Privacy Policy Statement**

Yes

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**Session Classification:** Monday Poster Session

**Track Classification:** MC1: Colliders and other Particle Physics Accelerators: MC1.A08: Linear Accelerators