



Contribution ID: 2530 Contribution code: TUPA024

Type: **Poster Presentation**

Surrogate Model Development for a Photoinjector

Tuesday, 9 May 2023 16:30 (2 hours)

Online models are becoming increasingly more important for the tuning of particle accelerators. Photoinjectors are especially notorious due to their sometimes finicky nature and the difficulties involved in developing models that are suitable for online use. Surrogate models using artificial neural networks are increasingly popular for this application due to their ability to model nonlinear behavior and their execution speed. In support of photo-injector commissioning we have developed a neural network surrogate model and an associated GUI to deploy this model during operations. Here we present our results on the simulations, surrogate model development, and GUI deployment.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary authors: MUROKH, Alex (RadiaBeam Technologies); HALL, Christopher (RadiaSoft LLC); EDELEN, Jonathan (RadiaSoft LLC); WOLFINGER, Kathryn (Colorado University at Boulder); KRAVCHENKO, Maksim (RadiaBeam); RUELAS, Marcos (RadiaBeam)

Presenters: HALL, Christopher (RadiaSoft LLC); EDELEN, Jonathan (RadiaSoft LLC); WOLFINGER, Kathryn (Colorado University at Boulder)

Session Classification: Tuesday Poster Session

Track Classification: MC2: Photon Sources and Electron Accelerators: MC2.T02: Electron Sources