



Contribution ID: 129

Type: **Contributed Oral**

Single-shot, transverse self-wakefield reconstruction from screen images

Thursday, 10 November 2022 13:50 (20 minutes)

A method to reconstruct the transverse self-wakefields acting on a beam, based only on screen images, is introduced. By employing derivative-free optimization, the relatively high-dimensional parameter space can be efficiently explored to determine the multipole components up to the desired order. This technique complements simulations, which are able to directly infer the wakefield composition. It is applied to representative simulation results as a benchmark and also applied to experimental data on skew wake observations from dielectric slab structures.

Acknowledgments

This work was supported by DOE Grant No. DE-SC0017648 and DE-SC0018656.

Primary authors: MAJERNIK, Nathan; LYNN, Walter (UCLA); ANDONIAN, Gerard (UCLA / RadiaBeam); XU, T (NIU); PIOT, Philippe; ROSENZWEIG, James

Presenter: MAJERNIK, Nathan

Session Classification: WG5: Beam Sources, Monitoring, and Control

Track Classification: Working Group Parallel Sessions: WG5 Oral: Beam Sources, Monitoring, and Control