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# Developments in Lume-ACE3P Including S-Parameter Optimization for S3P

*Sunday 10 August 2025 15:00 (3 hours)*

We present here the introduction of optimization to LUME-ACE3P (LUME: Lightsource Unified Modeling Environment; ACE3P: Advanced Computational Electromagnetics 3D Parallel). LUME-ACE3P is a Python wrapper that streamlines workflows for ACE3P, a suite of finite element solvers for electromagnetic fields in complex geometries. LUME-ACE3P offers parameter sweep capabilities, which was previously the only means to perform optimization with this code. In the integration of LUME-ACE3P with the optimization package Xopt, we facilitate efficient and easy to use optimization for accelerator component design. We present the LUME-ACE3P-Xopt workflow with an example problem.

## Please consider my poster for contributed oral presentation

No

## Would you like to submit this poster in student poster session on Sunday (August 10th)

Yes

## Footnotes

## Funding Agency

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## I have read and accept the Privacy Policy Statement

Yes

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