



Contribution ID: 554 Contribution code: SUP035

Type: **Poster Presentation**

Benchmarking COMSOL and OPAL at Crocker Nuclear Lab

Sunday 10 August 2025 15:00 (3 hours)

Accurate studies of particle behavior in accelerator chambers require precise magnetic field maps with regard to the iron geometry. We generated a realistic magnetic-field map for the 76-inch cyclotron at Crocker Nuclear Lab using COMSOL Multiphysics, then imported it into the OPAL (Object-Oriented Parallel Accelerator Library) software to model particle trajectories. It accurately simulates beam dynamics, provides reliable validation against measured data, and establishes a foundation for future cyclotron optimization and upgrades.

Please consider my poster for contributed oral presentation

Yes

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

Yes

Footnotes

Funding Agency

University of California Office of the President grant LF-20-653232

I have read and accept the Privacy Policy Statement

Yes

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Session Classification: SUP: Sunday Student Poster Session

Track Classification: MC5 –Beam Dynamics and EM Fields