Contribution ID: **279** Contribution code: **TUP004** Type: **Poster Presentation**

A Community Effort toward a Particle Accelerator Lattice Standard (PALS)

Tuesday 12 August 2025 16:00 (2 hours)

A major obstacle to collaboration on accelerator projects has been the sharing of lattice description files among modeling codes. To address this problem, a standardized lattice description called the Particle Accelerator Lattice Standard (PALS) is being developed. PALS development is a community-wide international effort involving accelerator physicists from multiple institutions. Along with the standard, interface packages written in commonly used languages will be developed.

The importance for developing PALS is due to the increase in scale and complexity of new machines bringing an ever greater need for global collaboration, as well as interfacing with the data-driven activities using artificial intelligence and machine learning.

The proposed Particle Accelerator Lattice Standard aims to promote: (i) portability between applications, (ii) a unified open-access description for scientific data (publishing and archiving), (iii) a unified description for post-processing, visualization and analysis. We will present an introduction to the effort, an overview of the standard, examples of applications, and discuss plans and future involvements from the community.

Please consider my poster for contributed oral presentation

No

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

No

Footnotes

PALS links:
- Repository: https://github.com/campa-consortium/pals
- Documentation: https://pals-project.readthedocs.io

Funding Agency

Supported by the US National Science Foundation under award No. 2342336 and the US Department of Energy under contracts No. DE-SC0025351, DE-SC0024287, DE-AC02-05CH1123, and DOE SciDAC CAMPA project.

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Yes

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Session Classification: TUP: Tuesday Poster Session

Track Classification: MC5 –Beam Dynamics and EM Fields