

APS Scientific Computation Seminar Series

Speaker:

Antoine Islegen-Wojdyla
Optical Scientist, Advanced Light Source

Title:

Using Computation at the Advanced Light Source for Better Beams and Unleashing the Power of Coherence

Date:

July 29, 2024

Time:

1:00 p.m. (Central Time)

Location:

Join ZoomGov Meeting

<https://argonne.zoomgov.com/j/1601444470?pwd=N1phbHZVdCtmcVR5cGh0c1Zhc0orZz09>

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Hosts:

Mathew Cherukara and Nicholas Schwarz

Abstract:

The upcoming upgrade of the Advanced Light Source will provide a beam with over 50% partial coherence in the soft x-ray regime. Antoine will talk about the latest efforts at the ALS to bring x-ray adaptive optics to the general user population and the use of neural networks to make them practical, the development of a user interface for automated alignment using machine learning, and the development of digital twins to enable new optical schemes. He will also discuss how computation can help harness the power of coherence of 4th generation light sources with techniques such as ptychography, Fourier ptychography, randomized probe imaging and wavefront engineering.