Physics Colloquium

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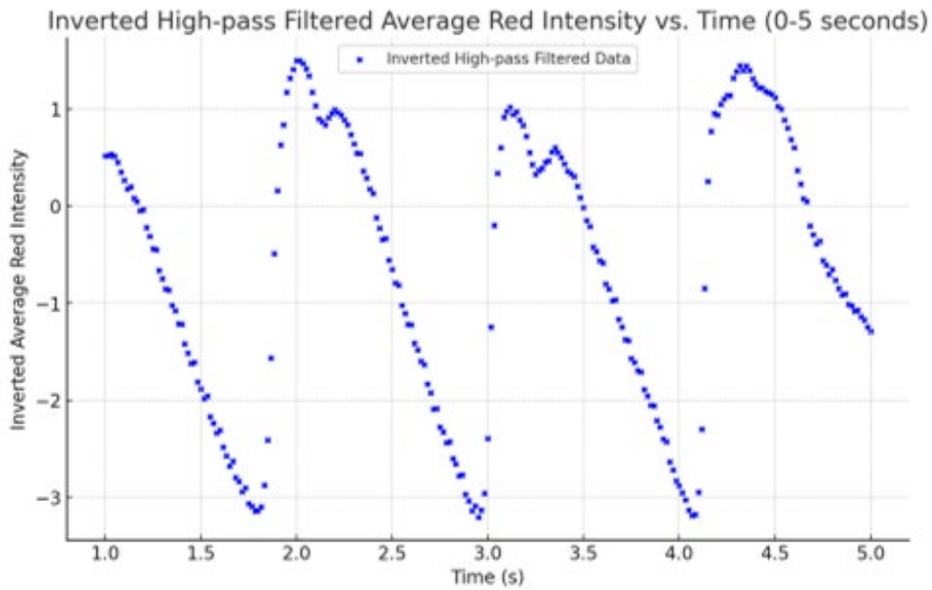
Integrating AI into Introductory Physics Labs: Enhancing Data Analysis and Student Learning

ABSTRACT

The extraordinary and rapidly advancing capabilities of artificial intelligence are transforming science and engineering, reshaping how we conduct experiments, analyze data, and interpret results. This presentation explores how generative AI can be integrated into introductory physics labs to enhance student engagement and improve data analysis. The seminar will showcase several hands-on experiments where students collect complex data sets using smartphones and analyze them with AI-driven tools.

Incorporating AI tools into physics labs can reduce barriers to advanced data analysis, encourage deeper conceptual understanding, and prepare students for a future where AI is an essential part of scientific inquiry. The presentation will start the discussion of pedagogical strategies to ensure AI enhances-not replaces-critical thinking and problem-solving.



3:00-4:00 p.m., Friday, September 12th, 2025

In-person in McLane Hall 162