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Inverse Problem Seminar

A Neural Network Warm-Start Approach for Inverse Scattering Problems

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Abstract: Inverse scattering problems play a crucial role in numerous applications across various fields. However, the widely-used optimization formulation is challenging to solve due to the computationally expensive evaluation of the objective function and the problem's highly nonlinear, non-convex, and ill-posed nature. In this talk, we introduce a neural network warm-start approach to effectively tackle these challenges while maintaining high precision. We will discuss the benefits of our approach, its implications, and how it can contribute to enhancing current practices in the field. The underlying philosophy of this method has the potential to be applied to a broader range of scientific challenges in the field of PDEs that demand low computational costs and high accuracy.

Date: March 27, 2024 (Wednesday)

Zoom Link:

<https://cuhk.zoom.us/j/93381348535?pwd=UUhPNDRFRlpsOTRQbGt5cDhCOWIwQT09>

Meeting ID: 933 8134 8535

Passcode: 760021

Time: 8:30 pm (Hong King Time)

All are Welcome