

PHYSICAL MATH SEMINAR

Response Theory via Generative Score Modeling



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ABSTRACT:

In this talk, I will introduce a new approach for analyzing the responses of dynamical systems to external perturbations by combining score-based generative modeling with the Generalized Fluctuation-Dissipation Theorem. This methodology enables the accurate estimation of system responses, including those with non-Gaussian statistics. I will present numerical validations of this approach, demonstrating its improved accuracy over conventional methods and discussing its potential as a versatile tool for predicting the statistical behavior of complex dynamical systems.

TUESDAY, SEPTEMBER 24, 2024

2:30 PM – 3:30 PM

Building 2, Room 449

<https://math.mit.edu/pms/>