



Numerical Analysis Seminar

Numerical integrators for disordered NLS

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Abstract

In this talk, we will present the numerical methods for integrating a cubic nonlinear Schrödinger (NLS) equation with a spatial random potential. The model is known as the continuous disordered NLS. The presence of the random potential induces roughness to the equation and to the solution, which causes convergence order reduction for classical numerical methods. We shall introduce a low-regularity integrator (LRI), where we show how to integrate the potential term and the nonlinearity by losing two spatial derivatives. Numerical results will be presented to show the accuracy of LRI compared with classical methods under random/rough potentials from applications.

Date: October 5, 2021 (Tuesday)

Time: 4:00 – 5:00pm (Hong Kong Time)

Venue: Room 210, Run Run Shaw Bldg., HKU
and

ZOOM: <https://hku.zoom.us/j/>

Meeting ID: 913 6532 3891

Password: 310656



Attendance limited
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All are welcome