Introduction to Dispersive Equations

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Timetable: 16 hrs. First lecture on April 5, 2021, 14:00 (dates already fixed, see calendar). The course will be held online on Monday, Tuesday, Wednesday 14.00-16.00, link Zoom will be announced.

Course requirements: Sobolev spaces, Fourier transform, a good understanding of basic Functional and Real Analysis

Examination and grading: TBA

SSD: MAT/05

Aim: the course will provide an introduction to the theory of the Nonlinear Schrodinger equation (NLS) as a model of the class of nonlinear dispersive equations.

Course contents:

1. The linear flows: classical representations vs the approach from spectral theory.
2. Dispersive properties of the flows: pointwise decay, Strichartz estimates, smoothing estimates.
4. Scattering for NLS: classical and modern results.