2020 Distinguished Lecture Series

Phase space analysis with exponential weights and non-self-adjoint spectral problems.

Johannes Sjöstrand
Institut de Mathématiques de Bourgogne

Lecture 1: Tuesday, March 10, 2020, 3:00 – 3:50 p.m. MS 6627

Analytic wavefront sets, local FBI-transforms and pseudodifferential operators on exponentially weighted spaces of holomorphic functions. Propagation of singularities, eigenvalues of non-self-adjoint operators and resonances in the semi-classical limit - a survey.

Lecture 2: Wednesday, March 11, 2020, 3:00 – 3:50 p.m. MS 6627

Eigenvalues of elliptic operators:
a) The analytic case, using semi-global weighted spaces.
b) The case of random perturbations (general Weyl law).

Lecture 3: Thursday, March 12, 2020, 4:15 – 5:05 p.m. MS 6627

Resonances:
Global weighted spaces.
The role of trapped classical trajectories.
Potential well in an island for a semi-classical Schrödinger operator,
shape resonances and higher levels.