Mathematical methods of Quantum Mechanics

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Timetable: 16 hrs. First lecture on November 10, 2021, 11:00 (dates already fixed, see Calendar of the activities on https://dottorato.math.unipd.it/calendar), Torre Archimede, Room 2BC/30.

Course requirements: Basic notions about Hilbert spaces and related operators theory, spectral theory, Hamiltonian mechanics.

Examination and grading: Seminar

SSD: MAT/07 - Mathematical Physics

Aim: The target of this course is to introduce the study of Quantum Mechanics in a rigorous way, through its most recent mathematical tools. The final achievement is to outline some of the current and more important research lines from the viewpoint of Mathematical Physics.

Course contents:

1. Basic notions of Quantum Mechanics.
3. Phase space Analysis, coherent states and semiclassical approximations.
4. Many body dynamics, mean field asymptotics towards Hartree equation.

References: