U·H
Universität Hamburg
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CHAMPP
CENTER IN HAMBURG FOR
ASTRO-, MATHEMATICAL AND
PARTICLE PHYSICS

LECTURE COURSE IN THE QUANTUM UNIVERSE RESEARCH SCHOOL

Summer Term 2021

Partial Differential Equations II

Camilla Nobili

Course Description:

Topics:
- Sobolev spaces, Sobolev inequalities and compactness
- Second order elliptic equations
- Parabolic equations
- Hyperbolic equations
- Hyperbolic conservation laws, weak solutions and the Lax entropy condition

Prerequisites:

Partial Differential Equations I or any introductory course that covers the basic linear theory of partial differential equations.

Literature:

- *Partial Differential Equations* (second edition), L.C. Evans
- *Elliptic Partial Differential Equations of Second Order*, D.Gilbarg and N.S.Trudinger
- *Singular integrals and differentiability properties of functions*, E.Stein

Further material will be given in the course.

Date and Place: Thu 14:15–15:45, Fri 14:15–15:45, Zoom
Zoom coordinates will be sent by Email on STiNE

Problem Classes: will be flexibly integrated into the lecture times, Zoom

Starting on: 8 April 2021