

MA4198 PROJECT PROPOSAL (PROJECT CUM SEMINAR GROUP)

SUPERVISOR'S INFO

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TITLE

Analytic properties of wave equations

BRIEF DESCRIPTION OF PROJECT

Wave equation is a fundamental type of differential equations, which is widely used in mathematical general relativity and fluid mechanics. The students will be advised to study some modern techniques in pure math (vector field methods, Fourier methods, Morawetz estimates) to explore the analytic properties of solutions to wave equations.

EXPECTATION/S

Each student is expected to understand one modern technique and is expected to employ the technique to derive some mathematical conclusions.

Prerequisite

MA3220

READING REFERENCE/S

Partial Differential Equations by Lawrence Evans; Lectures on Nonlinear Wave Equations by Qian Wang