



Wintersemester 2019/20

Seminar: Selected topics in mathematical relativity and geometric analysis

Instructor: Dr. Armando Cabrera Pacheco

Start: Wednesday, October 16th 2019

Time and place: Wednesday, 10 c. t. to 12, in C5H10 (Seminar Room 7)

Information session: Wednesday, July 17th at 15 c.t. in in C5H10 (Seminar Room 7)

Description

The main goal of this seminar is to study and understand the main ideas and results of important research articles in mathematical relativity and geometric analysis.

Each student will be required to present in detail (at least) one article.

The seminar will start by reviewing some basic concepts in mathematical relativity which will be relevant to understand the content of the research articles.

A description of possible research articles to study will be given in the information session.

Requirements

Geometry in Physics and Mathematical Relativity or some other course that includes differential geometry, especially containing some submanifold theory.

Literature

LEE, J. M., *Riemannian manifolds: An introduction to curvature*, Graduate Texts in Mathematics **176**, Springer-Verlag New York, 1997.

O'NEILL, B., *Semi-Riemannian geometry and applications to relativity*, Pure and Applied Mathematics **103**, Academic Press, Inc., New York, 1983.

WALD, ROBERT M., *General relativity*, University of Chicago Press, Chicago, IL, 1984