Seminari Informal
de Matemàtiques de Barcelona

Speaker: Ernesto Pimentel García.
University: Universidad de Málaga.

Date: Wednesday, 5th of June.
Schedule: 12:00, *coffee break*; 12:20, talk.
Place: B1 classroom, *Facultat de Matemàtiques* of UB.
Language: English.

Title: On an efficient implementation of the Roe scheme for large hyperbolic systems.

Abstract: There exist several schemes to solve numerically hyperbolic systems of Partial Differencial Equations. Two of them are the Simple Riemann solvers (SRS) and the Polynomial Viscosity matrix (PVM) methods.

The results obtained by Morales de Luna et al. (2014) concerning the relation between SRS and the PVM methods are revisited and applied to the efficient implementation of the Roe method for large hyperbolic systems either conservative or non-conservative. This implementation, based on the Newton's form of the interpolation polynomial, will be applied to the two-layer shallow water model and a non-conservative model for rarefied gas flow.

About us: The SIMBa is a young seminar organized by the PhD students of the Faculties of Mathematics and Computers of Barcelona. It is aimed at doctoral, master's degree students and, also, for those who are in the last grade courses. Our goal is that each one can make known the research which they are doing, as well as, to get new knowledge of other areas of mathematics than his own..

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