> Seminario de Matemática Aplicada

USC UNIVERSIDADE DE SANTIAGO DE COMPOSTELA — DEPARTAMENTO DE MATEMÁTICA APLICADA

imat

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An overview of well-balanced numerical schemes for kinetic equations relying on "Caseology“

Kinetic equations in 1+1 dimensions, once discretized in the "discrete-ordinates" manner, may be viewed as a (semi-) linear 2N x 2N hyperbolic system. Such a simple approach is sufficient mostly in the special case N=1, i.e. the two-stream approximation (like for instance Goldstein-Taylor's model), to derive a very reliable WB discretization.

Yet, it doesn't allow to treat correctly models involving a continuous velocity variable, like e.g. radiative transfer, run-and-tumble models of chemotaxis or Fokker-Planck. It turns out that a spectral theory of stationary kinetic equations, sometimes called "Caseology", furnishes exactly what is needed in order to build WB numerical discretizations.

Fecha	**Miércoles, 15 de noviembre de 2017**
Lugar	**Aula Magna - Facultad de Matemáticas**
Hora	**11:00**
Idioma	**Inglés**

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