Seminario SANMoMa-Graduados

Centro de Investigación en Ingeniería Matemática, CI^{2}MA, UDEC

Expositor:

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Título de la charla:

A numerical scheme for a non-local conservation law modelling sedimentation

Lugar:

Hall del CI^{2}MA

Fecha:

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Resumen

We present a version of the numerical scheme proposed in [1] for a class of scalar conservation laws with non-local flux modelling a sedimentation process. The proposed scheme delivers more accurate solutions than the widely used Lax-Friedrich type scheme. In contrast to other models [2], we consider a non-local mean velocity instead of a mean density and provide L^∞ and bounded variation estimates for the sequence of approximate solutions. Numerical examples illustrate the behaviour of solutions of the nonlocal equation.

References

[1] R. Bürger, A. García, K.H. Karlsen and J.D. Towers, *A family of numerical schemes for kinematic flows with discontinuous flux*, J. Eng. Math. 60 (2008), 387–425.

[2] F. Betancourt, R. Bürger, K.H. Karlsen and E.M. Tory, *On nonlocal conservation laws modelling sedimentation*, Nonlinearity 24 (2011), 855–885.

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