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Radici - Stability of quasi-entropy solutions for nonlocal scalar conservation laws

Saturday, 26 November 2022 17:15 (45 minutes)

Abstract. In this talk we consider the stability of entropy solutions for nonlinear scalar conservation laws with respect to perturbations of the initial datum, the space-time dependent flux and the entropy inequalities. Such general stability theorem has several primary benefits, among which the possibility to study conditional existence and uniqueness of entropy solutions for evolutions whose flux depends non-locally on the solution itself. In addition, the relaxation of the entropy inequality allows to treat approximate solutions arising from various numerical schemes and to derive their corresponding rates of convergence.
In particular, we discuss the case of a recent deterministic particle method introduced to study transport models with congestion and we obtain for the first time the (sharp) convergence rate. This is a joint work with E. Marconi and F. Stra.

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