

Local fully discrete entropy stability for a second-order scheme for scalar hyperbolic equations

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This talk concerns the numerical approximations of the weak solutions of scalar hyperbolic conservation laws. After showing how to bypass the barrier theorems for the linear advection, the derivation of a second-order entropy-stable scheme will be presented for non-linear equations. The fully discrete stability result will be established for regular strictly convex entropy and under a parabolic CFL-like condition. Some numerical experiments will be presented to assess the accuracy and the stability of the proposed scheme.

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