

AN ENTROPY STABLE SCHEME FOR THE MULTICLASS LIGHTHILL–WHITHAM–RICHARDS TRAFFIC MODEL

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ABSTRACT. In this talk, an entropy conservative flux for the Multi-Class Lighthill–Whitham–Richards kinematic traffic model (MCLWR) is presented. The construction is based on the general framework by Tadmor developed in references [2]–[5]. The construction of entropy conservative fluxes is of interest since in combination with numerical diffusion terms they allow one to design entropy stable schemes for the MCLWR model. In order to obtain a higher-order accurate scheme and control oscillations near discontinuities, a third-order WENO reconstruction recently proposed by Ray [D. RAY, *Third-order entropy stable scheme for the compressible Euler equations*, in C. Klingenberg and M. Westdickenberg (eds.), Springer Proc. in Math. and Stat. 237, pp. 503–515] is used. Numerical experiments for different classes of drivers are developed to test the performance of the entropy stable scheme constructed with the entropy conservative flux proposed.

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