ANTI-DIFFUSIVE FINITE DIFFERENCE WENO METHODS FOR SHALLOW WATER WITH TRANSPORT OF POLLUTANT

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摘要
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Abstract In this paper we further explore and apply our recent anti-diffusive flux corrected high order finite difference WENO schemes for conservation laws \cite{ZS} to compute the Saint-Venant system of shallow water equations with pollutant propagation, which is described by a transport equation. The motivation is that the high order anti-diffusive WENO scheme for conservation laws produces sharp resolution of contact discontinuities while keeping high order accuracy for the approximation in the smooth region of the solution. The application of the anti-diffusive high order WENO scheme to the Saint-Venant system of shallow water equations with transport of pollutant achieves high resolution.

通讯作者