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Abstracts of Short Communications and Posters

Section:

10. Partial Differential Equations

1991 MS Classification: 35

Panov Evgeniy Yu., Novgorod University, Russia

On some hyperbolic systems of conservation laws.

We study Cauchy problem for the nonstrictly hyperbolic system $U_t + f(U)_x = 0$, $U = U(t,x)$ lies in a space of real symmetric or complex Hermitian 2×2-matrixes; $t \geq 0$, $x \in \mathbf{R}$; $f(U)$ is a function of a matrix U defined by some scalar function $f \in C(\mathbf{R})$. We introduce a notion of a *strong generalized entropy solution*; prove that it exists, is unique, satisfies all Kruzhkov-Lax entropy conditions and for general enough case can be obtained by a vanishing viscosity method.

Reference: E. Yu. Panov, A class of systems of quasilinear conservation laws, *Matematicheskii Sbornik.* **188**:5 (1997), 725-751.