| | |
|---|---|
| Contribution Title: | ON SCALAR HYPERBOLIC LAWS WITH DISCONTI-NUOUS FLUX |
| Authors: | M. Bulicek, P. Gwiazda, J. Malek, A. Swierczewska-Gwiazda |
| Presenting author: | Bulíček M. |
| Affilation: | Charles University in Prague, Sokolovska 83, 186 75 Prague 8, Czech Republic |
| E-mail: | mbul8060@karlin.mff.cuni.cz |
| Invited speaker: | |
| YRS seminar: | YES |

We study the Cauchy problem for scalar conservation laws with fluxes that can have countable jump discontinuities. First, we introduce a new concept of entropy weak and measure-valued solution that is consistent with the standard one for continuous fluxes. In one spatial dimension we prove the existence of weak solution for flux having only monotone jumps without any additional requirement on continuity of the flux at zero. In all dimensions we establish existence of measure-valued entropy solution for fluxes having jump discontinuities. Under additional assumption on Hölder continuity of flux at zero, we get uniqueness of entropy measure-valued solution. Moreover, we establish the existence and uniqueness of weak entropy solution.