

FRACTIONAL BV SPACES FOR HYPERBOLIC CONSERVATION LAWS

STÉPHANE JUNCA*

The theory of weak entropy solutions with shock waves has usually performed in the space BV of functions of bounded total variation or in L^∞ . What happens between BV and L^∞ ? The spaces, BV^s , $0 < s < 1$ fill the gap between $BV = BV^1$ and L^∞ . They have some BV -properties, they include shock wave functions, traces and compactness embedding in L^1_{loc} . Some simple examples are first presented in BV^s , a Lions-Perthame- Tadmor conjecture, existence or blow-up of solutions, and some expected results.

*Laboratoire Jean Alexandre Dieudonné, Université Côte d'Azur