Non-classical shocks in a non-local generalised Korteweg-de Vries-Burgers equation

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Hyperbolic conservation laws are ill-posed in general and a common way to derive uniqueness of weak solutions are the so called regularisations. In this talk we study a non-local diffusive and dispersive regularisations of a hyperbolic conservation law given by a fractional derivative. We will analyse the travelling wave solutions in relation with shock formation and show the existence of solutions that in the limit of vanishing diffusion and dispersion lead to non-classical shocks.

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