

Multipeakons: between PDEs, geometry and control

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In my talk I will introduce the notion of multipeakons as special solutions of the Camassa-Holm equations. I will show the Hamiltonian system satisfied by such solutions as well as respective Lagrangian. We shall see how differential geometry methods yield qualitative properties of twopeakons (results due to W.Kryncki from our department) and state the expected result for a multipeakon. Next, some control theory problem for multipeakons, as consequence of particular control problem for Camassa-Holm equation will be stated. The direction of further research as well as some well known results will be given.