Insalate di Matematica

presents

On the KdV equation and complete integrability: from some nice algebra to the analysis of (some) PDEs

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Webex meeting
Università di Milano Bicocca

Abstract

In this talk we will consider the KdV equation as a point of view to discuss the rich framework of properties of completely integrable PDEs: we will look at the Lax-pair formulation, the inverse scattering transform, soliton-addition maps, the Miura map, which are all features of these special nonlinear models that have been known since some decades and have found a rigorous analytic treatment more recently to establish several new results. We will then give some insights about the current research project under the supervision of Prof. H. Koch on the KPII equation.

Keywords:

Dispersive equations · KdV · KPII · inverse scattering · Lax pair · completely integrable PDEs · Miura map · solitary waves · soliton stability

"Obvious" is the most dangerous word in mathematics. - Eric Temple Bell

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