

Northeastern University



Mathematics Department

Geometry, Physics, and Representation Theory Seminar

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Thursday, November 7, 2:50-3:50 pm, Lake Hall 509

Integrable Hierarchy From the BV Formalism

Abstract

The KdV equation is a nonlinear partial differential equation describing waves on shallow water surfaces. In spite of its nonlinearity, this is exactly solvable as it admits a surprisingly rich structure, that is, it is a part of the so-called KdV hierarchy. From a completely different direction, for a smooth projective variety X , one can consider a generating function of Gromov–Witten invariants of X . Witten conjectured and Kontsevich first proved the mysterious claim that when X is a point, the generating function is governed by the KdV hierarchy. I will explain a program toward understanding what happens when X is general. This talk is on the first step for dispersionless integrable hierarchy, which is a joint work with Weiqiang He, Si Li, and Xinxing Tang.