מכון ויצמן למדע

THE WEIZMANN INSTITUTE OF SCIENCE

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Seminar in Geometry and Topology

Room 290C ,Ziskind Building
on Monday, Dec 26, 2016
at 16:15

Boris Khesin
University of Toronto

Optimal transport and geodesics on diffeomorphism groups

Abstract:

We revisit how the Euler and Burgers equations arise as geodesics on the groups of diffeomorphisms. It turns out that the Euler hydrodynamics is in a sense dual to problems of optimal mass transport. We also describe L^2 and H^1 versions of the the Wasserstein space of volume forms. It turns out that for the homogeneous H^1 metric the Wasserstein space is isometric to (a piece of) an infinite-dimensional sphere and it leads to an integrable generalization of the Hunter-Saxton equation.

Email: hanni.naor@weizmann.ac.il * Phone: (08)9343349 * Fax: (08)9344308