

General Mathematics Seminar
of the
University of Luxembourg
in cooperation with the
Luxembourg Mathematical Society

February, 2012

Wednesday, February 1st , 2012, at 14:00

Campus Kirchberg, Room A02

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Evolution of smooth shapes and integrable systems

Abstract:

We consider a homotopic evolution in the space of smooth shapes starting from the unit circle. Based on the Loewner-Kufarev equation we give a Hamiltonian formulation of this evolution and provide conservation laws. We study an embedding of the Loewner-Kufarev trajectories into the Segal-Wilson Grassmannian, construct the tau-function, the Baker-Akhiezer function, and finally, give a class of solutions to the KP equation.