

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

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Campus Kirchberg, Room B02

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Integrating super vectorfields and the super geodesic flow

Abstract:

Aim of my talk will be to introduce the notion of integral and geodesic flows on supermanifolds as certain partial actions of \mathbb{R} . In fact these supermanifolds will be 'parametrized' over a 'small' super algebra, which makes the theory much easier. I will explain this concept and show that it fits well into the general framework of local deformation theory. A version of Palais' theorem for supermanifolds is obtained stating that every infinitesimal action of a simply connected super Lie group on a supermanifold can be integrated to a whole group action. Finally I show that Newton's, Lagrange's and Hamilton's approach to mechanics can be formulated also for Riemannian supermanifolds and are in fact equivalent.