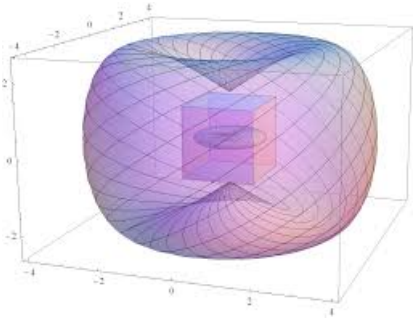
Oberseminar Geometrie
Department of Mathematics
University of Fribourg
Physics 2.52
Wednesday Novemner 10, 2021, 10:20



Michal Jozwikowski (UniFR)

Everything you ever wanted to know about sub-Riemannian geodesics (but were afraid to ask)

A sub-Riemannian geodesic problem is a simple modification of the problem of finding curves of minimal length on a Riemannian manifold by putting linear constraints on allowed velocities. Despite its simplicity, a question if all sub-Riemannian geodesics are smooth remains open for over 30 years. In the talk I will discuss first and second-order necessary (and sufficient) conditions for optimality of sub-Riemannian geodesics. Some fresh results for the second-order case will be announced.