

# Sub–Finslerian geometry

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## Abstract

In the talk first the notion and basic questions of sub–Finslerian geometry will be explained. A sub-Finslerian manifold is, roughly speaking, manifold  $M$  which is equipped with a cone (or distribution)  $D \subset TM$  and sub-Finslerian function  $F : D \rightarrow R^+$  with some regularity conditions. This notion, initiated by C. López and E. Martínez in 2000, generalizes the notion of sub–Riemannian geometry, called also Carnot–Carathéodory theory. First we discuss how it is possible to introduce the parallelism, covariant derivations and geodesics in this circumstance. Then we show the relationships and the applicability of this new notion with control theory.