FACOLTÀ DI SCIENZE MATEMATICHE, FISICHE E NATURALI
DIPARTIMENTO DI MATEMATICA E FISICA "NICCOLÒ TARTAGLIA"

Functions of bounded variation in sub-Riemannian manifolds

Introduce
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Interviene
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Abstract

Sub-Riemannian manifolds are differentiable manifolds endowed with a metric that is only defined in a bracket-generating sub-bundle of their tangent bundle. They appear naturally in the study of non-holonomic control systems and they are used for example in many models for optical illusions, robotics and vision theory.
The first part of the talk will be devoted to an introduction to sub-Riemannian geometry with examples of applications.
In the second part, we will focus on the analysis of the measure derivative of a function of bounded variation in the context of Carnot-Carathéodory spaces, that are local models for sub-Riemannian manifolds. We will show that, analogously to the Euclidean case, BV functions are approximate differentiable almost everywhere. In case the space satisfies some additional geometric property, we also prove that the jump set is rectifiable and a precise formula for the measure derivative of a BV function holds.
This is a joint work with Davide Vittone

Seminario

Giovedì 24 ottobre 2019
Sala Riunioni, ore 15.30
Via dei Musei 41 - Brescia

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