Séminaire d'algèbre, topologie et géométrie
Jeudi 27 avril à 14h
Salle de conférences

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Lipschitz submanifolds in Carnot groups

In this talk we deal with the notion of (intrinsic) Lipschitz regularity for submanifolds in Carnot groups, that are a special class of Lie groups of the utmost importance in sub-Riemannian geometry. In the first part of the topic we will provide a gentle introduction to the topic and then we will focus on the problem of the validity of a Rademacher theorem (almost everywhere existence of a tangent plane, in some intrinsic sense) for Lipschitz submanifolds. We will state a positive result in Heisenberg groups and provide a counterexample in a certain Carnot group. In the second part of the talk we will provide an outline of the proof of both the positive and negative results, saying also a few words about the Rumin's complex of differential forms and (intrinsic) currents.