

Lie Algebroids: a comprehensive geometric notion

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Resumo: The notion of Lie algebroid is a kind of interpolation between the tangent bundle or sheaf to a geometric object (a differentiable or complex manifold, variety, scheme. . .) and a Lie algebra. As such, this notion encompasses many other concepts: foliations (including singular ones), sheaves of Lie algebras, bundles of differential operators, Lie-Rinehart algebras, In a natural way, Lie algebroids can also be regarded as the tangent objects to Lie groupoids. Moreover, Lie algebroids have a reach cohomology theory, which again in a sense interpolates between the de Rham cohomology of the base space, and a fiberwise Lie Algebra cohomology. In this colloquium talk I will give an introduction to this notion, stressing its pervasiveness in geometry, algebra and topology.