

Introduction to Lie groupoids and Lie algebroids

Ieke Moerdijk

Mathematisch Instituut Universiteit Utrecht

Resumo/Abstract:

The goal of these lectures is to provide a first encounter with the notions in the title. In particular, I will not assume any prior knowledge of the subject. In the first lecture, I will introduce the concept of a Lie groupoid, and give many examples. The infinitesimal counterpart of a Lie groupoid is a Lie algebroid. In the second lecture, I will discuss its construction, and show that this is a very natural notion occurring in many places in geometry. The theory of Lie groupoids and algebroids is analogous to that of groups and algebras in some respects, but very different in many others. We'll see some glimpses of this in the second lecture. In the third lecture, I'll discuss a more substantial example of this, by comparing the deformation theory of Lie algebras with that of Lie algebroids.