

Lectures on Groupoids (I) & (II)

Speaker: Camille Laurent-Gengoux (Université de Lorraine)

Venue: Lecture Room B, 4th Floor, The 3rd General Building, NTHU

Lecture 1: 12/23 (Fri.) 10:30 - 12:00

- Lectures on Groupoids (I):

When symmetries are only partial : Lie groupoids, and the integration problem

Lecture 2: 12/23 (Fri.) 13:30 - 15:00

- Lectures on Groupoids (II):

Several basic questions about differential equations and how Lie groupoids help solving them

Abstract

Exactly as groups can be understood as a set of symmetries, Lie groupoids naturally appear naturally as encoding partial symmetries of some structure. In particular, they appear when dealing with Poisson brackets and Hamiltonian systems, or regular foliations. We will explain the integration problem: how does one go from an infinitesimal Lie groupoid, called Lie algebroids, to a Lie groupoid, and give several examples and applications. In particular, we will deal with the holomorphic case. In the afternoon, I will explain how Lie groupoids may be used while studying complex structures, differential equations, or the first return map of a dynamical system.

Organizer: Nan-Kuo Ho (NTHU)