

Géométrie des crochets

Luxembourg

January 28-29, 2010

HENRIK STROHMAYER

Max-Planck-Institut für Mathematik, Bonn

A (pr)operadic description of Poisson and bi-Hamiltonian structures

During the last decade it has been shown by S. Merkulov that several differential geometric structures allow descriptions in terms of (pr)operads. In this talk we will give a brief introduction into the theory of algebraic operads and properads, a generalization of operads due to B. Vallette. We will then review Merkulov's properadic description of Poisson structures and finally show how one can describe also bi-Hamiltonian structures in this way.

CAMILLE LAURENT-GENGOUX

Universidade de Coimbra

Non Abelian gerbe in local coordinates

RUI LOJA FERNANDES

Instituto Superior Técnico, Lisboa

The Equivariant Picard Group

In this talk I will report on some ongoing joint work with Henrique Bursztyn (IMPA) which aims at describing geometrically the Picard group of a Poisson manifold and its Lie algebra. I will also discuss their equivariant versions.

LAURENT HOFER

University of Luxembourg

A quasi-Lie bialgebra quantization problem coming from a string theory

We present a quasi-Lie bialgebra quantization problem which comes from an algebraic reformulation of the Nambu-Goto string theory and invariant charges by Pohlmeyer and Rehren. This quasi-Lie bialgebra structure depends on a symmetric bivector (coming from a Minkowski metric) and is built on the free Lie algebra on a finite dimensional vector space. We solve this problem when the bivector has rank 1 or 2.

YVETTE KOSMANN-SCHWARZBACH

École Polytechnique, Paris

More on the big bracket and compatible structures on Lie algebroids

We shall review the role of the big bracket in the study of pairs of structures on Lie algebroids, such as Poisson-Nijenhuis, complementary 2-forms, Hitchin pairs. We shall show that such composite structures arise in the theory of Monge-Ampère operators. (Joint work with Volodya Roubtsov)

KIRILL MACKENZIE

University of Sheffield

Remarks on Poisson actions

Organizers: FRÉDÉRIC HÉLEIN (*Paris Diderot*), NORBERT PONCIN (*Luxembourg*), MARTIN SCHLICHENMAIER (*Luxembourg*), MATHIEU STIÉNON (*Paris Diderot*), PING XU (*Luxembourg*)

	Thursday 28th	Friday 29th
10:30 – 11:30 <i>coffee break</i>	HENRIK STROHMAYER	YVETTE KOSMANN-SCHWARZBACH
12:00 – 13:00 <i>lunch</i>	CAMILLE LAURENT-GENGOUX	KIRILL MACKENZIE
15:00 – 16:00 <i>coffee break</i>	RUI LOJA FERNANDES	
17:00 – 18:00	LAURENT HOFER	

All talks take place in room A17.