

MATHEMATICS SEMINAR
of the
UNIVERSITY OF LUXEMBOURG
in cooperation with the
LUXEMBOURG MATHEMATICAL SOCIETY

September 2009

14 September (Monday!) 2009, at 5 pm

Room 2.04 bs (!)

Nobutada Nakanishi
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Systems of ODE and their associated Nambu vector fields

Abstract

A Nambu vector field (or equivalently a Nambu system of ODE) is a kind of Hamiltonian vector field, which corresponds to $dH_1 \wedge dH_2 \wedge \dots \wedge dH_{n-1}$, a monomial (not finite sum) of $n - 1$ -forms. I prove that if $dx_1/f_1 = \dots = dx_n/f_n = dt$ is the system of ODE, there exists a function A such that $dx_1/Af_1 = \dots = dx_n/Af_n = dt/A$ becomes a Nambu system. A function A is one of last multipliers of Jacobi for the original ODE. After this proof, I will give some applications and examples.

29 September 2009, at 5 pm

Room 3.04 bs

Pieter Moree
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Cyclotomic coefficients

Abstract

The n -th cyclotomic polynomial has the n -th primitive roots of unity as its (simple) roots. Its coefficients are integers. The cyclotomic polynomials occur in various contexts in algebra and number theory. The tendency of the coefficients to be quite small has intrigued mathematicians since the 19th century. I will discuss recent works concerning this phenomenon, after discussing some more general aspects of cyclotomic polynomials. Little previous number theoretical exposure on part of the listener is required.