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SPECIAL PUBLIC LECTURE "On explicitly solvable ODE's"

Monday, 23 June 2014 18:00 (1:00)

Content

Abstract: We discuss the problem of integration of ODE systems by quadratures. The main classical results on exact integration of general nonlinear systems are the Euler-Jacobi theorem on the integrating factor and the Lie theorem on the solvable algebra of symmetries. We present a general theory uniting these two approaches. We generalize Darboux's classical results on the integrability of linear non-autonomous systems with an incomplete set of particular solutions. Special attention is paid to linear Hamiltonian systems. We also discuss the general problem of integrability of autonomous ODE systems in an n-dimensional space which admit an algebra of symmetry fields of dimension greater than or equal to n.

Summary

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