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DEPARTMENT OF APPLIED MATHEMATICS APPLIED SEMINAR SERIES 2007

The Seminar Series of the Department of Applied Mathematics, UNSW, Sydney is dedicated to the announcement, dissemination and discussion of research in mathematics and its applications. A fundamental aim of the Seminar Series is to feature lectures that inform in a manner that makes the subject accessible to the audience, including non-specialists.

SPEAKER: Professor Reinout Quispel, Department of Mathematics & Centre for Mathematics and Statistics of Complex Systems, La Trobe University, Melbourne, Australia.

TITLE: Geometric Numerical Integration of Differential Equations.

Abstract: Geometric integration is the numerical integration of a differential equation, while preserving one or more of its geometric/physical properties exactly, i.e. to within round-off error. Many of these geometric properties are of crucial importance in physical applications: preservation of energy, momentum, angular momentum, phase-space volume, symmetries, time-reversal symmetries, symplectic structure and dissipation are examples. In this talk we present a survey of geometric numerical integration methods for ordinary differential equations. Our aim has been to make the review of use for a general mathematical audience.

TIME AND VENUE: 12 noon, Thursday 6 December 2007, Room 4082, Red Centre.



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