SEMINARIO IMAC DE ANÁLISIS NUMÉRICO Y DINÁMICA COMPUTACIONAL

Institut de
Matemàtiques
i Aplicacions
de Castelló

UNIVERSITAT JAUME·I

Conferencia a cargo de Mohammad Hajiketabi

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Preserving schemes based on the Magnus expansion for nonlinear dynamical Systems

ABSTRACT: Explicit numerical integration algorithms up to order four based on the Magnus expansion for nonlinear and possibly non-autonomous ordinary differential equations are presented and tested on problems possessing qualitative (very often, geometric) features that is convenient to preserve under numerical discretization. Schemes of orders three and four are endowed with an adaptive step size strategy that is virtually cost free, thus improving their overall efficiency.

Fecha: 6 de junio de 2017, a las 12:00 horas.
Lugar: **IMAC** (*Seminari TI1329SD), ESTCE. Universitat Jaume I de Castelló*

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