

The Multi-Symplecticity of Partitioned Runge-Kutta Methods for Hamiltonian Partial Differential Equations

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Abstract: In this talk we review the development of Runge-Kutta methods in Numerical Geometric Integrations for Hamiltonian ODEs and Hamiltonian PDEs. We present some conditions of multi-symplecticity of partitioned Runge-Kutta methods for Hamiltonian partial differential equations, and give some applications to Schroedinger equations, Dirac equations and wave equations.

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