

Virtual training course: Advanced numerical methods for earth system modelling



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Eulerian time-stepping schemes for NWP & climate

Wednesday, 11 March 2020 11:35 (1 hour)

The aim of this session is to describe Eulerian rather than Lagrangian type numerical techniques for integrating the equation sets encountered in NWP models. We will present an overview of different time-stepping techniques and discuss the advantages and disadvantages of each approach.

By the end of the session you should be able to:

- obtain a good understanding of the minimum theoretical properties required by time-stepping schemes
- describe differences, strengths-weaknesses of different time-stepping approaches such as split-explicit time-stepping, Runge-Kutta time-stepping
- describe the basic features of different time-stepping schemes used in other weather forecasting models such as WRF, ICON

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