

NE 155, Class 28, S15

Taylor Series Methods and Runge-Kutta

guest lecturer: Kathryn Huff

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1 Introduction

LeVeque book section

2 Taylor Series Derivation of Forward Euler

Simplest method, Forward euler, can be derived with a taylor series expansion around a point in a finite difference system.

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3 Runge-Kutta Methods

To avoid multistep methods ... Consider two stage explicit Runge-Kutta

4 Application to PRKE

Each of these can be applied to the PRKE...

5 One-Step vs. MultiStep

Introduce the notion of multistep methods. Consider the advantages of one-step over multi-step.