IMPRS - BBL

Numerical methods

Lecture 1

Michael Marks

Goal of this lecture:

Understand and apply basic Numerical methods

Aims of numerical methods:

Efficient / Fast

Use little memory

NUMERICAL RECIPES

The Art of Scientific Computing

THIRD EDITION

William H. Press Saul A. Teukolsky William T. Vetterling Brian P. Flannery



Topics:

- Day 1: Linear algebraic equations
- Day 2: Inter- and Extrapolation
- Day 3: Integration
- Day 4: Random numbers and distribution functions
- Day 5: Root finding, Minimization and Maximization
- Day 6: Differentiation

Crout's Algorithm:



Numerical Recipies (Press et al.)