Computational Fluid Dynamics - Linearization

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1. Introduction
2. Finite Volume Method
3. Discretization
4. Algebraic Equations
5. Linearization
6. Algorithm

5. Linearization

Algebraic Equations are Nonlinear

Check Your Understanding

Consider the integral form of momentum conservation.

$$\int_S \rho \vec{V}(\vec{V} \cdot \hat{n}) dS = -\int_S p\hat{n} dS + \vec{F}_{visc}$$

Which term(s) in this integral equation is/are nonlinear?

Linearization Illustration

Discretization and Linearization: Overview

When to Stop Iterating?

Go to Step 6. Algorithm

Go to all (FLUENT) Learning Modules