

Computational Fluid Dynamics - Linearization

Author: Rajesh Bhaskaran, Cornell University

- [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](#)