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## 1 General Considerations

$$\frac{D\rho}{Dt} = \frac{\partial\rho}{\partial t} + u_i \frac{\partial\rho}{\partial x_i} \neq 0 \quad (1)$$

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## 2 Thermodynamic Relations

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### 2.1 State Variables

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## 3 Conservation Laws for Continuum Flows

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## 4 Simplification Strategies

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## 5 Conservation Laws for Stream Tubes

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## 6 Steady one-dimensional Flow without Friction and Heat

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## 7 Unsteady one-dimensional Flows

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## 8 Two-dimensional steady supersonic Flow

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## 9 Method Characteristics for planar homentropic supersonic Flows

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## 10 Homentropic Flow around slender Wings

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## 11 Homentropic Flow around axisymmetric slender Bodies

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## 12 Similarity Relations

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