

# Diffusion and Resistivity

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## 1 Diffusion and Mobility in Weakly Ionized Gases

### 1.1 Collision Parameters

[1, 2]

### 1.2 Diffusion Parameters

[1, 2] The fluid equation of motion including collisions is

$$mn \frac{d\mathbf{v}}{dt} = mn \left[ \frac{\partial \mathbf{v}}{\partial t} + (\mathbf{v} \cdot \nabla) \mathbf{v} \right] = \pm en \mathbf{E} - \nabla p - mn \nu \mathbf{v} , \quad (1)$$

## References

- [1] F.F. Chen. *Introduction to plasma physics*. Plenum Press, 1974.
- [2] F. Chen. *Introduction to Plasma Physics and Controlled Fusion*. Springer International Publishing, 2015.