

# Basic literature for the course MAGNETOHYDRODYNAMICS

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## Bibliography on MHD

- **Plasma Dynamics**, T. J. M. Boyd & J. J. Sanderson, Barnes & Noble, New York (1969).
- **Hydrodynamic and Hydromagnetic Stability**, S. Chandrasekhar, Dover (1981).
- **Magnetohydrodynamics**, T. G. Cowling, Adam Hilger, Bristol (1976).
- **Electrodynamics of Continuous Media**, L. D. Landau, E. M. Lifshitz & L. P. Pitaevskiĭ, vol. 8 of the *Course of Theoretical Physics*, Butterworth-Heinemann, 2 edition (1984).
- **Solar Magnetohydrodynamics**, E. R. Priest, Reidel, Dordrecht (1982).
- **Principles of Magnetoplasma Physics**, L. C. Woods, Clarendon Press, Oxford, (1987).

The excellent book **Solar Magnetohydrodynamics** is especially recommended for the topics ‘Magnetohydrostatics. Force-free fields’ (chapter 3), ‘MHD waves’ (chapter 4) and ‘MHD shock waves’ (chapter 5).

## Complementary bibliography on Hydrodynamics

- **An introduction to fluid mechanics**, G. K. Batchelor, Cambridge University Press (1970).
- **The Physics of Fluids and Plasmas: An Introduction for Astrophysicists**, Arnab R. Choudhuri, Cambridge University Press (1998).
- **Supersonic flow and shock waves**, Courant & Friedrichs, Springer-Verlag (1972).
- **Fluid Mechanics**, L. D. Landau & E. M. Lifshitz, vol. 6 of the **Course of Theoretical Physics**, Butterworth-Heinemann; 2 edition (1987).
- **Physical fluid dynamics**, D. J. Tritton, Oxford Science Publications (1988).
- **Theoretical fluid dynamics**, B. K. Shivamoggi, series *Mechanics of fluids and transport processes*, Martinus Nijhoff Publishers, Dordrecht (1985).

The book **Fluid Mechanics** by Landau & Lifshitz contains very clear and extensive chapters on ‘Sound Waves’ and ‘Shock Waves’.

## Complementary bibliography on (rational) Thermodynamics

- **Rational Thermodynamics**, Clifford A. Truesdell, Springer-Verlag (1984).
- **The non-linear field theories of mechanics**, Clifford A. Truesdell & Walter Noll, Springer-Verlag (1992).
- **The Tragicomical History of Thermodynamics**, Clifford A. Truesdell, Springer-Verlag (1980).