

BOOK REVIEW

B. V. Somov, *Fundamentals of Cosmic Electrodynamics*, Kluwer Academic Publishers, Dordrecht, Holland, 1994, 364 pp., hardback Dfl. 240,00/US \$144.00/UK £96.00, ISBN 0-7923-2919-8.

The chapters of this book can be grouped in several topical parts: (i) Various methods of plasma description: the motions of charged particles, kinetic equations, two-fluid plasma model, magnetohydrodynamics (Chapters 1–6). (ii) Discussion of examples of plasma motion in magnetic fields (Chapters 7 and 11). (iii) Waves and discontinuities in MHD (Chapters 8–9). (iv) Plasma equilibrium in magnetic fields (Chapter 10). (v) Current sheets and magnetic reconnection: their basic properties, particle acceleration in the current sheets, tearing-mode instability, etc. (Section 2.4 and Chapters 12–16). Topics described under (i)–(iv) can be used for advanced courses addressed to undergraduate or graduate students. Topics described under (v) are most interesting for solar physicists. This part of the book contains a very useful discussion of the basic properties of the current sheets and magnetic field reconnection using analytical methods, and the reader is referred to original papers for detailed numerical model calculations.

*Astronomical Institute,
Wrocław, Poland*

J. JAKIMIEC