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Plasma Physics Applied (New Book)[1] CROCKETT GRABBE, U of Iowa & SeaLane Consulting — Plasma physics applications are one of the most rapidly growing fields in engineering & applied science today. The last decade alone has seen the rapid emergence of new applications such as dusty plasmas in the semiconductor and microchip industries, and plasma TVs. In addition, this last decade saw the achievement of the 50-year Lawson breakeven condition for fusion. With new discoveries in space plasma physics and applications to spacecraft for worldwide communication and space weather, as well as new applications being discovered, this diversity is always expanding. The new book Plasma Physics Applied reviews developments in several of these areas. Chapter 1 reviews the content and its authors, and is followed by a more comprehensive review of plasma physics applications in general in Chapter 2. Plasma applications in combustion and environmental uses are presented in Chapter 3. Lightning effects in planetary magnetospheres and potential application are described in Chapter 4. The area of dusty plasmas in both industrial and space plasmas and their applications are reviewed in Chapter 5. The particular area of Coulomb clusters in dusty plasmas is presented in Chapter 6. The variety of approaches to plasma confinement in magnetic devices for fusion are laid out in Chapter 7. Finally, an overview of plasma accelerator developments and their applications are presented in Chapter 8.

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