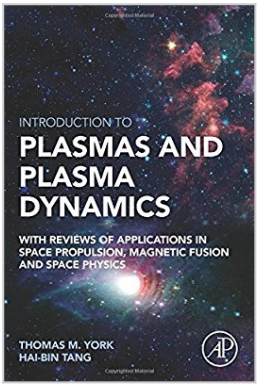

Introduction to Plasmas and Plasma Dynamics: With Reviews of Applications in Space Propulsion, Magnetic Fusion and Space Physics

By Thomas M. York, Haibin Tang

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Introduction to Plasmas and Plasma Dynamics provides an accessible introduction to the understanding of high temperature, ionized gases necessary to conduct research and develop applications related to plasmas. While standard presentations of introductory material emphasize physics and the theoretical basis of the topics, this text acquaints the reader with the context of the basic information and presents the fundamental knowledge required for advanced work or study.

The book relates theory to relevant devices and mechanisms, presenting a clear outline of analysis and mathematical detail; it highlights the significance of the concepts with reviews of recent applications and trends in plasma engineering, including topics of plasma formation and magnetic fusion, plasma thrusters and space propulsion.

- Presents the essential principles of plasma dynamics needed for effective research and development work in plasma applications
- Emphasizes physical understanding and supporting theoretical foundation with reference to their utilization in devices, mechanisms and phenomena
- Covers a range of applications, including energy conversion, space propulsion, magnetic fusion, and space physics.

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Editorial Review

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Dr. Thomas M. York, currently a consultant in aerospace and energy applications, was Professor of Aerospace Engineering at Penn State and Ohio State universities; he also served as staff in the Office of Fusion Energy and Office of Energy Research, US Dept. of Energy. He has an extensive background in National laboratory research collaboration (Los Alamos, Livermore, USAF Astronautics, NASA Labs.) on experimental and theoretical plasma studies. He has specialized in aerospace gas and plasma dynamics, plasma diagnostics, space propulsion, magnetic fusion studies and ionosphere studies.

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