



2nd ed. 2009, XXIV, 560 p.

Printed book

Softcover

205,59 € | £149.99 | \$229.99

^[1]219,98 € (D) | 226,15 € (A) | CHF 242,50

eBook

171,19 € | £119.50 | \$179.00

^[2]171,19 € (D) | 171,19 € (A) | CHF 194,00

Available from your library or
springer.com/shop

MyCopy ^[3]

Printed eBook for just

€ | \$ 24.99

springer.com/mycopy

Claudio Bruno, Paul A. Czysz

Future Spacecraft Propulsion Systems

Enabling Technologies for Space Exploration

Series: Astronautical Engineering

- Updates and expands the information in the first edition of *Future Spacecraft Propulsion Systems*
- Includes new material on fusion propulsion
- Puts spacecraft propulsion in perspective, from earth orbit launchers to astronomical/space exploration vehicles
- Demonstrates the logical expansion of propulsion concepts
- Looks at the design limitations imposed by the mission requirements

This third edition of *Future Spacecraft Propulsion Systems and Integration – Enabling Technologies for Space Exploration*, has been updated and expanded. The major addition addresses the multi-disciplinary integration between the spectrum of hypersonic vehicles to reach Earth orbit and that of their propulsion systems. A best-practice sizing approach is presented to define the solution spaces and facilitate the correct design of these integrated flight vehicles to mission. This pragmatic approach is the essential capability sought after by design teams, technology forecasters and strategic planners alike, and includes lesson learned and space launchers as examples from the past. Among novel systems, the chapter on future combined engines includes now description and performance of pulsed detonation engines. All aspects of space flight discussed in the first two editions have been updated and augmented to account for the many changes in technology, policy and space objectives following the demise of the US Shuttle and the appearance of private space companies. Accordingly, the chapters dealing with near-Earth, interplanetary, galactic and future breakthrough propulsion have been expanded to include new applications, such as nuclear magnetic pulses, recent concept powered by inertial fusion, and new issues as, for instance, space radiation, a major obstacle to space exploration and commercialization in the years to come. This book can be useful to graduate students and teachers, as well as industrial organizations and planners.

Order online at springer.com / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: customerservice@springernature.com. / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: customerservice@springernature.com.

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

