

Rocket Propulsion Primer

This textbook covers fundamentals of rocket propulsion such as history, classification, qualitative design, quantitative design of internal ballistics and rocket vehicle optimization. It is intended to be used as a textbook by the undergraduate/advanced undergraduate students of aerospace engineering. It further describes the classification of aerospace propulsion, two-phase flows, nozzle contour design, advanced nozzle concepts (plug and expansion deflection nozzles) and materials. It also deals with the optimization of multistage rocket vehicles and their trajectories with reference to the currently operational orbital launch vehicles. This textbook contains numerous end-of-chapter problems to aid in self-learning of the students. It will be highly useful for the aerospace and mechanical engineering students. This can also be used as a reference guide by the scientists and engineers working in the areas of aerospace engineering.

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