

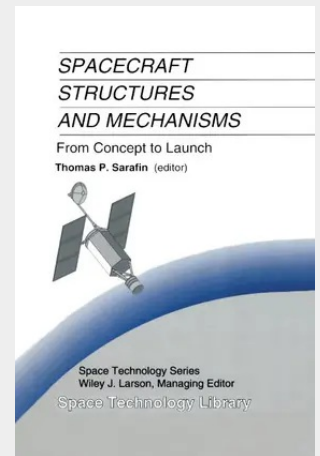
Spacecraft Structures and Mechanisms

From Concept to Launch

describes the integral process of developing cost-effective, reliable structures and mechanical products for space programs. Processes are defined, methods are described and examples are given. It has been written by 24 engineers in the space industry, who cover the themes of (1) ensuring a successful mission, and (2) reducing total cost through good designs and intelligent risk management. Topics include: Introduction and requirements (development process, requirements documentation, requirements definition, space mission environments); Analysis (statics, dynamics and load analysis, fatigue and fracture mechanics, mechanics of materials, strength analysis, heat transfer and thermal effects); Verification and quality assurance (verification planning, structural, mechanical and environmental testing, quality assurance and configuration control, compliance documentation, structural reliability analysis, verification criteria - factors of safety, margins of safety, fracture control, test options); Design (spacecraft configuration development, finite element analysis, mechanism development, designing for producibility, structural design, materials, designing to control loads, load cycles, sensitivity analysis); Final verification (model correlation, risk management, launch readiness reviews).

For system engineers, mechanical designers, stress analysts, dynamics and load analysts, technical leads, program managers.

Spacecraft Structures and Mechanisms describes the integral process of developing cost-effective, reliable structures and mechanical products for space programs. Processes are defined, methods are described and examples are given. It has been written by 24 engineers in the space industry, who cover the themes of (1) ensuring a successful mission, and (2) reducing total cost through good designs and intelligent risk management. Topics include: Introduction and requirements (development process, requirements documentation, requirements definition, space mission environments); Analysis (statics, dynamics and load analysis, fatigue and fracture mechanics, mechanics of materials, strength analysis, heat transfer and thermal effects); Verification and quality assurance (verification planning, structural, mechanical and environmental testing, quality assurance and configuration control, compliance documentation, structural reliability analysis, verification criteria - factors of safety, margins of safety, fracture control, test options); Design (spacecraft configuration development, finite element analysis, mechanism development, designing for producibility, structural design, materials, designing to control loads, load cycles, sensitivity analysis); Final verification (model correlation, risk management, launch readiness reviews). For system engineers, mechanical designers, stress analysts, dynamics and load analysts, technical leads, program managers.



427,99 €

399,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780792334767

Medium: Buch

ISBN: 978-0-7923-3476-7

Verlag: Springer

Erscheinungstermin: 31.05.1995

Sprache(n): Englisch

Auflage: 1. Auflage 1995

Serie: Space Technology Library

Produktform: Gebunden

Gewicht: 1449 g

Seiten: 850

Format (B x H): 160 x 241 mm

