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Garde Inc.'s Simulated Decoys""; ""B. Large Offset Reflector Structure""; ""C. Inflatable Antenna Experiment""; ""IV. ILC Dover's Inflatable Space Structures""; ""A. Large Solar-Array Structure""; ""V. Other Organizations with Inflatable Space Structures Technology Capability""; ""References""; ""Chapter 3. Mechanics of Membrane Structures""; ""Nomenclature""; ""I. Introduction""
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 ""C. Thermomechanic Field Theory""""D. Constitutive Relations for Elastic Solids and Sheets""; ""E. Constitutive Laws for Viscoelastic Materials""; ""F. Bodner's Parton's Rubin Model""; ""G. Fabrics""; ""V. Approximations""; ""A. Approximations in the Era of Computational Mechanics""; ""B. Nonlinear Nature of Membrane Problems""; ""C. Approximations in the Context of the Governing Equations""; ""D. Example""; ""E. On Accuracy and Modeling""; ""VI. Analysis of Wrinkled Membranes""; ""A. Introduction""; ""B. Tension-Field Modeling via a Penalty Parameter Modified Constitutive Law""
 ""VII. Experimental Analysis""

Sommario/riassunto

Written by many experts in the field, this book brings together, in one place, the state of the art of membrane and inflatable structure technology for space applications. With increased pressure to reduce costs associated with design, fabrication and launch of space structures, there has been a resurgence of interest in membrane structures for extraterrestrial use. Applications for membrane and inflatable structures in space include lunar and planetary habitats, RF reflectors and waveguides, optical and IR imaging, solar concentrators for solar power and propulsion, sun shades, solar sails and many others.
