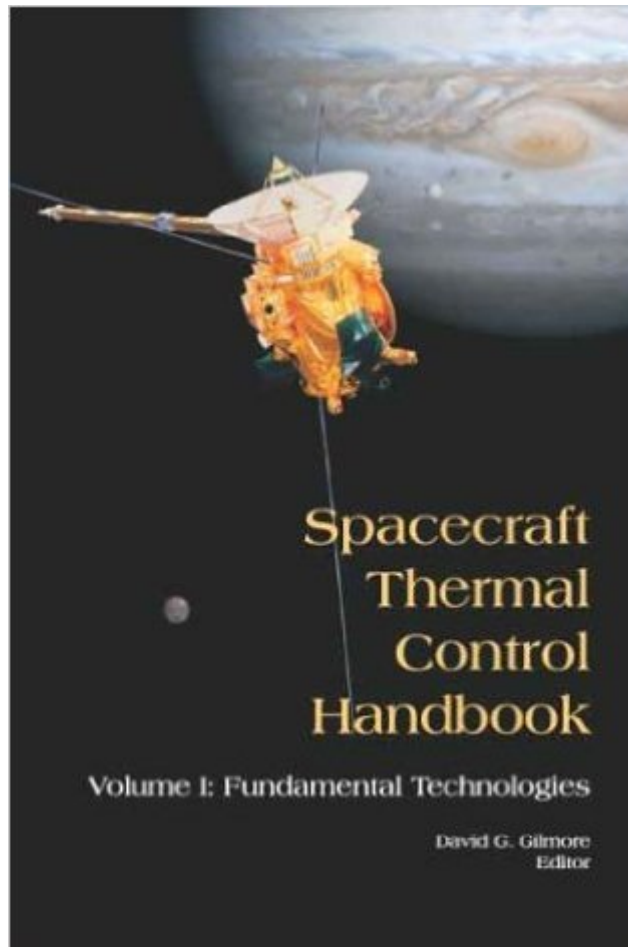


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Spacecraft Thermal Control Handbook, Volume I: Fundamental Technologies



Synopsis

This new edition of the classic Satellite Thermal Control Handbook, is a thorough, technical survey of the various technologies used to achieve thermal control of all types of spacecraft, as well as the design and analysis methods used by thermal engineers. Features: Spacecraft Systems Overview; Spacecraft Thermal Environments; Thermal Design Examples; Thermal Surface Finishes; Insulation; Radiators; Heaters; Mounting and Interfaces; Louvers; Heat Switches; Phase Change Materials; Pumped Fluid Loops; Thermoelectric Coolers; Heat Pipes; Thermal Design Analysis; Thermal Contact Resistance; Precision Temperature Control; Space Shuttle Integration; Thermal Testing; Future Technologies

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Customer Reviews

This book is essentially an update of the author's previous work, The Satellite Thermal Control Handbook, and is the collective writings of dozens of engineers who specialize in the design and analysis of spacecraft thermal control systems. While his first book focused on thermal control systems for unmanned Earth orbiting satellites, this new book expands on this information and includes interplanetary probes, the space shuttle and the most recent advances in thermal control system hardware. Over my many years in the aerospace industry, I have designed numerous thermal control systems for various types of spacecraft, and I have used this book countless times, especially for its extremely detailed and useful information on Multi-Layer Insulation thermal

blankets and aerogel. There are also some very helpful chapters on thermal testing, thermal environments and thermal contact information. The only area that I found lacking sufficient detail was the sections on active thermal control systems (pumped fluids), such as those used on the international space station, all manned vehicles and on some space probes. This important spacecraft thermal control method is examined in two small chapters and the only manned system examined in the space shuttle orbiter. There are many more systems. Finally, it should be noted that this book is highly technical and not geared towards the casual reader who is interested general spaceflight.

Book was packaged well, and I received it on time. The book was heavier and thicker than I thought but I'm fine with this.

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