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Nota di contenuto	Chapter 1: Satellite Applications Handbook: The Complete Guide to Satellite Communications, Remote Sensing, Navigation, and Meteorology -- Chapter 2: Satellite Communications Overview -- Chapter 3: History of Satellite Communications -- Chapter 4: Space Telecommunications Services and Applications -- Chapter 5: Satellite Orbits for Communications Satellites -- Chapter 6: Fixed Satellite Communications: Market Dynamics and Trends -- Chapter 7: Satellite Communications Video Markets: Dynamics and Trends -- Chapter 8: Mobile Satellite Communications Markets: Dynamics and Trends --

Chapter 9: An Examination of the Governmental use of Military and Commercial Satellite Communications -- Chapter 10: Economics and Financing of Communications Satellites -- Chapter 11: Satellite Communications and Space Telecommunications Frequencies -- Chapter 12: Regulatory Process for Communications Satellite Frequency Allocations -- Chapter 13: Satellite Radio Communications Fundamentals and Link Budgets -- Chapter 14: Satellite Communications Modulation and Multiplexing -- Chapter 15: Satellite Transmission, Reception and On-Board Processing Signaling and Switching -- Chapter 16: Satellite Communications Antenna Concepts and Engineering -- Chapter 17: Satellite Antenna Systems Design and Implementation Around the World -- Chapter 18: Satellite Earth Station Antenna Systems and System Design -- Chapter 19: Technical Challenges of Integration of Space and Terrestrial Systems -- Chapter 20: Satellite Communications Regulatory, Legal and Trade Issues -- Chapter 21: Trends and Future of Satellite Communications -- Chapter 22: Introduction to Satellite Navigation Systems -- Chapter 23: Global Navigation Satellite Systems: Orbital parameters, time and space reference systems and signal structures -- Chapter 24: International Committee on GNSS -- Chapter 25: Current and Future GNSS and their Augmentation Systems -- Chapter 26: Introduction and History of Space Remote Sensing -- Chapter 27: Electromagnetic Radiation Principles and Concepts as Applied to Space Remote Sensing -- Chapter 28: Astronaut Photography: Handheld Camera Imagery from Low Earth Orbit -- Chapter 29: Electro-optical and Hyper-spectral Remote Sensing -- Chapter 30: Operational Applications of Radar Images -- Chapter 31: Libar Remote Sensing -- Chapter 32: Digital Image Acquisition: Preprocessing, and Data Reduction -- Chapter 33: Digital Image Processing: Post- Processing, and Data Integration -- Chapter 34: Remote Sensing Data Applications -- Chapter 35: Geographic Information Systems and Geomatics -- Chapter 36: Introduction to Space Systems for Meteorology -- Chapter 37: United States Meteorological Satellite Program -- Chapter 38: EUMETSAT Geostationary Meteorological Satellite Programs -- Chapter 39: International Meteorological Satellite Systems -- Chapter 40: Overview of the Spacecraft Bus -- Chapter 41: Telemetry, Tracking, and Command (TT&C) -- Chapter 42: Lifetime Testing, Redundancy, Reliability and Mean Time to Failure -- Chapter 43: Ground Systems for Satellite Application Systems for Navigation, Remote Sensing and Meteorology -- Chapter 44: Common Elements versus Unique Requirements in Various Types of Satellite Applications Systems -- Chapter 45: Launch Vehicles and Launch Sites -- Chapter 46: Orbital Debris and the Sustainability of Space Operations -- Chapter 47: Space Weather and Hazards to Application Satellites -- Appendix 1: The World’s Launch Sites -- Appendix 2: Major Launch Systems Available Globally -- Appendix 3a: Global Communication Satellite Systems -- Appendix 3b: US Domestic Communications Satellite Systems.

Sommario/riassunto

Top space experts from around the world have collaborated to produce this comprehensive, authoritative, and clearly illustrated reference guide to the fast growing, multi-billion dollar field of satellite applications and space communications. This handbook, done under the auspices of the International Space University based in France, addresses not only system technologies but also examines market dynamics, technical standards and regulatory constraints. The handbook is a completely multi-disciplinary reference book that covers, in an in-depth fashion, the fields of satellite telecommunications, Earth observation, remote sensing, satellite navigation, geographical information systems, and geosynchronous meteorological systems. It

covers current practices and designs as well as advanced concepts and future systems. It provides a comparative analysis of the common technologies and design elements for satellite application bus structures, thermal controls, power systems, stabilization techniques, telemetry, command and control (TTC), and orbital configurations. These common aspects are addressed in an integrated fashion to explain how all these space systems share similar design features, but also have quite specialized application packages to carry out their various missions. No other reference in print today provides such a comprehensive and in-depth guide to all forms of application satellites, including small sats as used by countries just beginning space application programs.