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Special Issue Reprint

Advances in Multi-GNSS Technology and Applications

Edited by: Bobin Cui and Jungang Wang

This Reprint compiles 13 original research papers from the Special Issue entitled “Advances in Multi-GNSS Technology and Applications”, published in the open-access journal *Remote Sensing*, presenting the latest breakthroughs, algorithm optimizations, and application achievements in the GNSS field. Focused on the multi-GNSS ecosystem, the research addresses core challenges in improving the precision, availability, interoperability, and integrity of GNSS applications in complex scenarios. It covers key directions spanning fundamental algorithm research, signal processing, high-precision positioning optimization, and cross-field applications: LEO-enhanced multi-GNSS real-time PPP time transfer, SBAS integrity risk mitigation, ocean wave parameter retrieval via GNSS buoys, tropospheric estimation for precise positioning, refined clock model-based time transfer, satellite clock offset estimation with epoch-wise updated orbits, BDSBAS ionospheric parameter optimization, GNSS meta-signal construction, deep learning-driven positioning error correction and multipath mitigation, plus GNSS applications in geoscience and low-cost receiver urban scene recognition. Integrating advanced methodologies from geomatics, geoscience, computer science, and AI, these studies boost multi-GNSS performance in harsh environments, deliver innovative solutions for safety-critical and cutting-edge applications, and advance the global development and interdisciplinary integration of satellite navigation technology. This Reprint serves as a key academic reference and practical guide for researchers, engineers, and practitioners in GNSS fields.

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