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Nota di contenuto	1. Introduction to advanced ultrawideband radar systems / James D. Taylor -- 2. Advances in short-range distance and permittivity ground-penetrating radar measurements for road surface surveying / Gennadiy P. Pochanin, Sergey A. Masalov, Vadym P. Ruban, Pavlo V. Kholod, Dmitriy O. Batrakov, Angelika G. Batrakova, Liudmyla A. Varyanytsia-Roshchupkina, Sergey N. Urdzik, and Oleksandr G. Pochanin -- 3. Signals, targets, and advanced ultrawideband radar systems / James D. Taylor, Anatoliy Boryssenko, and Elen Boryssenko -- 4. Ultrawideband (UWB) time-frequency signal processing / Terence W. Barrett -- 5. Modeling of ultrawideband (UWB) impulse scattering by aerial and subsurface resonant objects based on integral equation solving / Oleg I. Sukharevsky, Gennady S. Zalevsky, and Vitaly A. Vasilets -- 6. Nondestructive testing of aeronautics composite structures using ultrawideband radars / Edison Cristofani, Fabian Friederich, Marijke Vandewal, and Joachim Jonuscheit -- 7. Modeling of UWB radar signals for bioradiolocation / Lanbo Liu -- 8. Bioradiolocation as a technique for remote monitoring of vital signs / Lesya Anishchenko, Timothy Bechtel, Sergey Ivashov, Maksim Alekhin, Alexander Tataraidze, and Igor Vasiliev -- 9. Noise radar techniques and progress / Ram M. Narayanan -- 10. Prototype UWB radar object scanner and holographic signal processing / Lorenzo Capineri, Timothy Bechtel, Pierluigi Falorni,

Masaharu Inagaki, Sergey Ivashov, and Colin Windsor -- 11. Ultrawideband sense-through-the-wall radar technology / Fauzia Ahmad, Traian Dogaru, and Moeness Amin -- 12. Wideband wide beam motion sensing / Francois Le Chevalier.

Sommario/riassunto

This book presents the latest theory, developments, and applications related to high resolution materials-penetrating sensor systems. An international team of expert researchers explains the problems and solutions for developing new techniques and applications. Subject areas include ultrawideband (UWB) signals propagation and scattering, materials-penetrating radar techniques for small object detection and imaging, biolocation using holographic techniques, tomography, medical applications, nondestructive testing methods, electronic warfare principles, through-the-wall radar propagation effects, and target identification through measuring the target return signal spectrum changes.
