Handbook of Ultra-Wideband Short-Range Sensing: Theory, Sensors, Applications
Jürgen Sachs

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DESCRIPTION

Ranging from the theoretical basis of UWB sensors via implementation issues to applications, this much-needed book bridges the gap between designers and appliers working in civil engineering, biotechnology, medical engineering, robotic, mechanical engineering, safety and homeland security.

From the contents:

* History

* Signal and systems in time and frequency domain

* Propagation of electromagnetic waves (in frequency and time domain)

* UWB-Principles

* UWB-antennas and applicators

* Data processing

* Applications
ABOUT THE AUTHOR

Jürgen Sachs earned a Doctorate (Dr.-Ing.) in Electrical Engineering (surface acoustic wave devices) and a Dipl.-Ing. degree in Electrical Engineering (semi-conductor technology and components). Since 1985, he is Senior Lecturer at TU Ilmenau, Germany. He teaches "Basics of Electrical Measurement Technology", "Methods of measurement for the information and communication technique", and "Satellite navigation and radar". He is head of several research projects, and inter alia coordinator of European projects for humanitarian demining. His research areas cover RF-signal analysis and RF-system identification; Surface Penetrating Radar, Impulse Radiating Antennas; Ultra wideband (UWB) methods and their application in high resolution radar and impedance spectroscopy, digital processing of UWB-signals; UWB-Array-processing; and humanitarian anti-personal mine detection.

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