

Smart Antenna Engineering

By Ahmed El Zooghby

Whether you are designing for systems based on 2G, 3G, or advanced MIMO technology, you can find the solution you need with this comprehensive reference on applying smart antennas in wireless and mobile communications. The book provides you with a simple yet powerful design methodology that enables you to select the smart antenna approach most suitable for a particular application. Moreover, it offers guidance in designing the appropriate uplink and downlink beamforming algorithms. This practical resource takes a systems approach to smart antenna engineering, detailing how to analyze and evaluate performance of the systems solution you design. Contents: Multiple Access Techniques for 2G and 3G Systems, Radio Propagation Channel Models, Fixed Beam Smart Antenna Systems, Adaptive Array Systems, Smart Antenna Receivers and Algorithms for Radio Base Stations, Coverage and Capacity Improvements of Wireless Networks, System Aspects of Smart Antennas, Smart Antenna Applications in Handsets and MIMO Systems.

Artech House

Available August 2005

Price: \$95.00

ISBN: 1-58053-515-1

**The Nano-Micro Interface:
Bridging the Micro and Nano
Worlds**Edited by Hans-Jörg Fecht and
Matthias Werner

The key topic of this book "The Nano-Micro-Interface" (NAMIX) intends to bridge the gap between microsystem technology and nanotechnology. Micro- and nano-technologies are becoming key technologies having a significant impact on the development of new products and production technologies for nearly all industrial branches. This is the first book picking up these emerging technology trends and compiling contributions from 25 authors and interna-

tional research groups. It addresses the interface between micro- and nanotechnology with a strong focus on synergy effects provided by the combination of both. The book's contributions cover the entire range of basic technology aspects with a strong focus on potential applications. Moreover, business aspects such as potential markets, roadmaps, transnational networking and investment opportunities are some of the key topics as well. Contents include, but are not limited to: US National Nanotechnology Initiative, Technological Marketing for Early Nanotechnologies, Nanomaterials and Smart Medical Devices, Bridging the Gap between Nanometer and Meter, New Technology for an Application-Specific Lab-on-a-Chip, Biomimetic Nanoscale Structures on Titanium, Self-Assembled Semiconductor Nanowires, and Nanocrystalline Oxides Improve the Performances of Polymeric Electrolytes.

Wiley-VCH

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**Pulsed $I(V)$ Measurement of
Semiconductor Devices**

By Peter Ladbrooke

Pulsed $I(V)$ Measurement of Semiconductor Devices covers the following topic in depth with applications. At RF and microwave frequencies, the large-signal characteristics of a semiconductor device are different from those measured at dc, and similarly are different from the RF and microwave properties deduced from small-signal measurements. Pulsed $I(V)$ measurements yield exactly the large-signal characteristics a device will exhibit, or follow, in non-linear RF, microwave and fast-switching circuit applications, and is a powerful technique that is complementary to the other, longer established, measurement methods. It is extremely quick, requiring no calibration, and may be used with RF probes for assessing devices on-wafer. The technique applies to

MESFETs, PHEMTs, MOSFETs, HBTs and BJTs in the Si, SiGe, SiC, GaAs, GaN and other material systems. Its users find benefit in creating more accurate device models which in turn effect more rapid process technology development, device design, package design, circuit design, Safe Operating Area (SOA) determination and reliability assessment as well as better process control.

Accent Optical Technologies

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**Encyclopedia of RF and
Microwave Engineering**

6-Volume Set

Edited by Kai Chang

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