



Personal information

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About the Author

Chris Baker is the Thales-Royal Academy of Engineering Professor of intelligent radar systems based in the Electronic and Electrical Engineering Department of University College London. He has been actively engaged in radar system research since 1984 and is the author of over one hundred and fifty publications. His research interests include, Coherent radar techniques, radar signal processing, radar signal interpretation, Electronically scanned radar systems, natural echo locating systems and radar imaging. He is the recipient of the IEE Mountbatten premium (twice), the IEE Institute premium and is a fellow of the IEE. He is also currently chairman of the IEE Radar, Sonar and Navigation systems professional network. He is a visiting Professor at the University of Cape Town and also at Cranfield University. In September of 2008 he will take up the position of Dean of Engineering and Computer Science at the Australian National University.

Research interest

Advanced electronically scanned very high resolution radar is extremely attractive for remotely detecting and classifying areas and objects. Networks of such sensors can provide an even richer information environment. Research is being conducted into these key emerging areas and is opening up new applications from detection and tracking of small objects such as vehicles and sail craft to global monitoring of oceans, land and ice masses. Particular research themes currently include:

- * Bistatic and Multistatic radar
- * Multi perspective target classification
- * Narrow band, high resolution imaging
- * Passive Coherent location
- * Hybrid MIMO radar
- * Radar resource management

Summary

Introduction into bi-/multistatic SAR

In this tutorial the fundamentals of bi and multistatic radar are introduced including the sensitivity and coverage via modified forms of the radar range equation, Range and Doppler resolution via a special form of the ambiguity function as well as target and clutter characteristics. These building blocks are then explored further via an examination of practical systems that include passive bistatic forms of radar system and a unique multistatic radar system. In this way fundamental aspects are linked to state of the art advances that are now emerging from the world of research and on towards application for a variety of remote sensing tasks. The tutorial is suitable for a wide range of students from PhDs through to experienced researchers and industrialists seeking to gain a thorough grounding in this new and exciting area of radar.