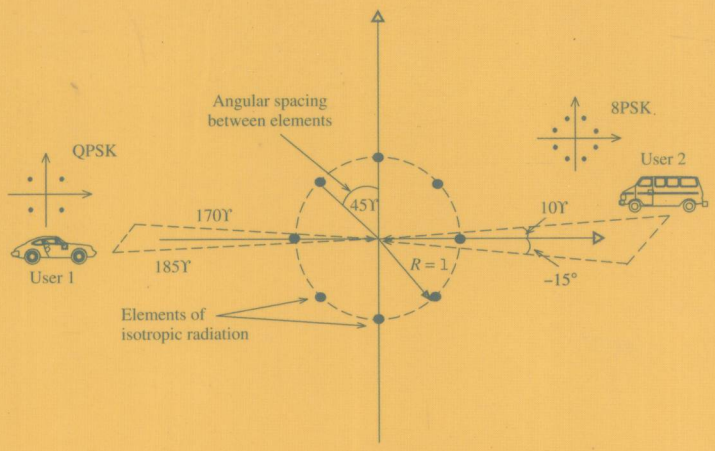
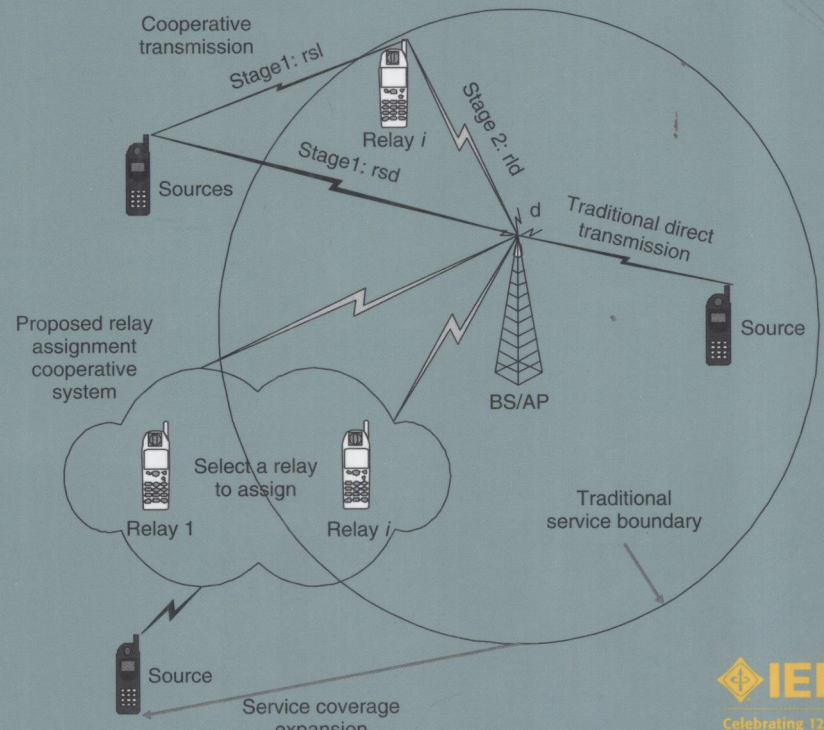



# HANDBOOK ON ARRAY PROCESSING AND SENSOR NETWORKS

SIMON HAYKIN • K. J. RAY LIU

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## Preface

More than a decade ago, a book edited by Simon Haykin on array processing was a huge success with significant impact. Ever since, the field of array processing has grown to the extent that one can see its applications everywhere. Indeed, traditional array techniques form the foundation of the more general sensor processing and networking that continue to advance the state-of-the-art research and find ubiquitous applications. Sensor networks and array processing form the two pillars of the proposed handbook.

Sensors and array processing, in their own individual ways, have been active areas of research for several decades: Wireless communications, radar, radio astronomy, and biomedical engineering, just to name a few important ones. This new *Handbook on Array Processing and Sensor Networks* addresses these topics in an organized manner under a single umbrella.

The major goal of this *Handbook* is to collect tutorial discussions on recent advancements and state-of-the-art results by providing a comprehensive overview of array processing and sensor networks. It covers fundamental principles as well as applications. This *handbook* features some of the most prominent researchers from all over the world, addressing the important topics that we consider to be essential for making the *handbook* highly valuable to the readers; this point is well borne out by the list of contents.

This *Handbook* consists of an introductory chapter, followed by 28 chapters that are written by leading authorities in sensor networks and array signal processing. Putting all this material together under a single umbrella, we have a *Handbook* that is one of a kind.

This *Handbook* should appeal to researchers as well as graduate students and newcomers to the field of sensors and array processing, and thereby learn not only about the many facets of these two subjects but also exploit the possibility of cross fertilization between them. Moreover, this *Handbook* may also appeal to professors in teaching graduate courses on sensor networks and/or array signal processing.

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