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Robust Parameter Estimation with Sensor Arrays in Complex Electromagnetic Environments

Guest Editors:

Dr. Jianfeng Li

College of Electronic Information Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing 211106, China

Dr. Ding Wang

1. College of Information System Engineering, PLA Strategic Support Force Information Engineering University, Zhengzhou 450001, China
2. National Digital Switching System Engineering and Technology Research Center, Zhengzhou 450002, China

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Message from the Guest Editors

Sensor arrays have been widely applied in various fields, e.g., wireless communication, radar, sonar, and navigation. The key roles of sensor arrays include providing spatial parameter estimations, for example, for predicting the direction-of-arrival and source position, and for enhancing parameter estimation performances in other domains. However, with the present complex electromagnetic environment, general estimation methods have great performance degradations when encountering complex signal propagation, such as multipath or occlusion situations. Meanwhile, a sensor array system itself also suffers from uncertainties, such as gain-phase errors, position errors, and mutual coupling, which are classical but long-term problems. So, there are urgent requirements for robust estimation methods, including model-driven and data-driven methods, which can obtain high-precision, high-resolution, and large-capacity parameter estimation, regardless of complex influencing factors. This Special Issue invites contributions on the latest developments and advances of robust processing methods, schemes, or architectures on sensor array systems.



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Special Issue



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Prof. Dr. Vittorio M. N. Passaro

Dipartimento di Ingegneria
Elettrica e dell'Informazione
(Department of Electrical and
Information Engineering),
Politecnico di Bari, Via Edoardo
Orabona n. 4, 70125 Bari, Italy

Message from the Editor-in-Chief

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Sensors Editorial Office
MDPI, Grosspeteranlage 5
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