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Current Trends and Advances in Antenna Array Synthesis

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Today communication and sensing systems need flexible and high-capacity radiating systems. Antenna arrays are the ideal solution and they have been a key priority in the research activities of the science community dealing with electromagnetics. The synthesis of an array may be performed in various ways and it deals with the optimization of the excitations, the feeding network, the array elements depending on the array structure and the project/system requirements. These latter are not only concerned with the radiating performance, but also refer to costs, maintenance, reconfigurability, etc. This session is a collection of more recent research studies focused on the optimization of array structures ranging from classical phased arrays up to unconventional structures and time-modulated architectures. Different applicative fields will be dealt with including space/satellite communications and radar sensing as well as wireless power transmission.