Intelligent Surfaces for 5G/6G Cellular Networks

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Message from the Guest Editors

Intelligent surfaces are a promising technology to tame scattering in sub-6GHz communications and overcome various issues in transmissions on millimeter waves and THz communications. Both the current fifth generation (5G) and the next sixth generation (6G) of cellular networks may significantly benefit from intelligent surfaces, not only for communication purposes, but also to improve localization accuracy and for sensing purposes. Engineering solutions should be developed, spanning from the estimation of channels including the surfaces to the impact of constraints imposed by the partial reconfigurability of surfaces on the network performance, from the techniques to be used for location to the accuracy of sensing. Additionally, more studies on applications of intelligent surfaces beyond communications are needed. The intelligence of 5G networks, provided by cloud and edge computing, further expands the possibility of elaborating the data collected by intelligent surfaces for high-level operations, including big data analysis and inference. This Special Issue aims at giving an extensive coverage of this recent research area, to shed new light for future cellular networks.

Special Issue

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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