



Advanced New Physical Layer Technologies for Next-Generation Wireless Communications

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Message from the Guest Editors

Dear Colleagues,

Next-generation wireless communication networks, notably 6G, will be expected to provide global convergence and connectivity, enhanced spectral/energy/cost efficiency, extremely high reliability and low latency, better intelligence levels and security, etc. New physical layer technologies are essential to meet these requirements, including new waveforms, multiple access approaches, channel coding methods, multiple access, multi-antenna technologies, and so on.

This Special Issue (SI) seeks novel contributions from researchers that explore new physical layer technologies, innovations, and applications for next-generation wireless communications which include, but not limited to, the following:

- Classical information theory
- Multiuser information theory and multiple access technologies
- Electromagnetic information theory
- Channel coding, modulation, and waveform design
- Semantic information theory and semantic-aware transceiver designs
- Signal detection and channel estimation
- Uses in combination with reconfigurable intelligent surfaces
- Native-AI empowered architectures
- Integrated sensing and communication.





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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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