Special Issue

Computational Methods in Wireless Communications with Applications

Message from the Guest Editor

This Special Issue highlights state-of-the-art computational techniques—non-convex optimization, stochastic geometry, and AI-based methods—and their applications in next-generation wireless networks, including space–air–ground-integrated network planning, beamforming, and resource allocation. Original research articles and reviews are welcome. Topics include mathematical modeling for wireless systems; computational methods for integrated network planning, sensing, communication, and computing; non-convex and non-smooth optimization for multi-antenna beamforming; stochastic and distributed optimization for resource allocation; and AI-driven optimization in wireless communications. Wireless communications have evolved from 1G to the anticipated 6G around 2030, profoundly influencing society. These advances have transformed the structure of associated optimization problems, posing challenges that drive the development of advanced computational methods, from novel mathematical models to sophisticated algorithms. We look forward to your contributions advancing computational methods for wireless communications.

Guest Editor

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Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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