



Intelligent new spectrum communication for 6G

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Facing the explosive growth of wireless communication transmission capacity in the future, as well as to address the electromagnetic spectrum crisis and lay the foundation for the transformation to the next generation of wireless communication technology, it is necessary to expand new spectrum carrier resources (terahertz, visible light, ultraviolet, and infrared bands), explore core technologies for key transceiver devices and networking, and illuminate the future of wide-coverage, multi-scenario, multi-mode ultra-high-speed 6G pervasive communication networks. This article introduces the progress in wireless optical and terahertz communication and discusses recent research hotspots, including high-speed transmitters and detectors, system applications of space-based and underwater networks, as well as exploration of AI applications in signal processing. It also introduces the prospects and challenges of new spectrum communication in 6G.