

Optical Wireless Communications

Submission Deadline: June 10, 2023

Brief introduction

Optical wireless communication (OWC) has been considered as a promising complementary to the overcrowded spectrum of radio frequency (RF) transmission. Compared to traditional RF communications, OWC has many advantages, such as license-free operation, immunity to electro-magnetic interference, network security, and tremendous bandwidth. By providing important technical and operational advantages, OWC is receiving increasing attention within the research community. OWC can be implemented in three major bands of infrared, ultraviolet, and visible-light. Therefore, sub-technologies including free-space optical (FSO) communications, visible light communications (VLC), infrared communications, and ultraviolet communications belong to the fields of OWC.

Topics Interested topics include (but not limited to):

- Modulation, coding, detection, and signal processing of OWC
- Hybrid RF/FSO/UWOC/VLC/THz/PHz/mmWave networks
- Network security, physical-layer security, covert transmission of OWC
- Positioning and navigation techniques of OWC
- Integrated communication, sensing, control, and computing of OWC
- Enabling techniques of 6G OWC, such as RIS, VR/AR, and digital twin

- High-speed system design of OWC
- Artificial intelligence and machine learning of OWC
- Multiple access, MIMO techniques of OWC
- Space-air-ground-sea integrated OWC
- Fiber-wireless communications
- Channel modelling, performance evaluation and resource allocation of OWC

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