

Science China Information Sciences: Call for Paper

Special Focus on Reconfigurable Intelligent Surfaces for Future Wireless Communications



The reconfigurable intelligent surface (RIS) is an artificial planar structure made of a large number of reconfigurable passive elements that are capable of modifying the radio waves impinging upon them in a software-controlled fashion. The particular feature makes it possible to realize a controllable radio environment, where the highly random wireless channel is turned into a deterministic space by carefully re-engineering the propagation of the EM waves. As such, RIS holds the potential to revolutionize the design of future wireless communications systems, and has gained considerable research interests. However, the application of RIS in wireless communication is still in its infancy, and substantial research efforts are needed to gain a fundamental understanding. Motivated by this, this special focus is aimed at reporting the latest and most promising research advances on key architectures, modeling, analysis, design, and implementation of RIS-empowered wireless networks, and at envisioning new research directions in this emerging field of research. The topics of interest include, but are not limited to the following:

- Channel modeling of RIS-empowered wireless networks
- Information-theoretic limits of intelligent surfaces-based wireless networks
- High order modulation design for RIS transceivers
- Channel estimation techniques for RIS-empowered wireless networks
- Transceiver design and resource allocation in RIS-empowered wireless networks
- Algorithms and protocols design/optimization for RIS-empowered wireless networks
- Massive access for intelligent surfaces-based wireless networks
- AI-inspired control and orchestration of RIS-empowered wireless networks
- Indoor/outdoor localization in RIS-empowered wireless networks
- Integration of RISs with state-of-the-art wireless technologies (e.g., small cells, Massive MIMO, millimeter-wave communications, THz communication, free space optics, Internet of Things, energy harvesting, etc.)
- Definition of uses cases, application scenarios, and techno-economic analysis
- Experimental results, measurements and testbed implementations of RISs

Submission:

The papers should be edited in the SCIS template, and should be submitted online through the manuscript submission system of SCIENCE CHINA Information Sciences (**Impact Factor: 3.304**). The submission website is: <https://mc03.manuscriptcentral.com/scis>. You should choose **Special Focus on Reconfigurable Intelligent Surfaces for Future Wireless Communications**. Information and guidelines on preparation of manuscripts are available on the journal website: <http://scis.scichina.com>.

Important Dates:

Manuscript submission deadline: **December 1, 2020**

Revision notification: March 1, 2021

Final manuscripts due: May 15, 2021

Publication: October 1, 2021

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