

SPECIAL SESSION 03

Channel Characteristics and Modeling in UAV-Assisted Air-to-Ground Communications

To address the increasing demand for global coverage in applications, sixth-generation (6G) wireless technology will extend beyond conventional terrestrial communication systems. It will, instead, rely on non-terrestrial components such as unmanned aerial vehicles (UAVs) and satellites to establish a space-air-ground integrated network (SAGIN). UAV-assisted communication, as a crucial element of SAGIN, has rapidly advanced due to its significant advantages, including on-demand deployment, highly controllable mobility, and cost efficiency. However, designing and evaluating UAV communication systems effectively requires a deep understanding of realistic propagation channel models. These models serve to approximate the propagation characteristics between transmitters and receivers. Therefore, it is vital to study the channel characteristics of air-to-ground communications in UAV wireless channels to ensure optimal system performance.

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TOPICS

This workshop will bring leading researchers and developers from both industry and academia together to present their latest research on UAV wireless channel models. Authors are invited to submit manuscripts on topics including, but not limited to, the following:

- Channel modeling and measurements for UAV wireless communications
- Reconfigurable intelligent surface (RIS)-enabled UAV wireless channel modeling AI-enabled UAV wireless channel modeling
- Protocols and architectures for UAV wireless channels
- Semantic communications for UAV wireless channels
- Machine learning and artificial intelligence for UAV wireless channels
- UAV's trajectory design for UAV wireless channels
- Spectrum management and multiple access schemes for UAV wireless channels
- Green energy powered UAV wireless channels
- MIMO/massive MIMO/millimeter wave technologies for UAV wireless channels Network security and information assurance for UAV wireless channels

Submission

EasyChair Submission System: <https://easychair.org/conferences/?conf=icct2025>
Template: <https://www.ieee-icct.org/IEEEtemplate-word.doc> (Word)
<https://www.ieee-icct.org/ieee-conference-latex-template.zip> (Latex)

Important Date

Submission Due 2025-Aug 10
Notification Due 2025-Sept 5
Registration Due 2025-July 10

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