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ZHUHAI, CHINA

Special Session 3

Non-Terrestrial Networks (NTN) and 5G/6G Integration

The integration of Non-Terrestrial Networks (NTN)—encompassing Low Earth Orbit (LEO) and Geostationary (GEO) satellites, High-Altitude Platform Systems (HAPS), and unmanned aerial vehicles—into 5G and emerging 6G ecosystems is poised to revolutionize global connectivity. By complementing terrestrial infrastructure, NTN promises to deliver seamless, high-capacity coverage to remote, rural, maritime, and aerial environments, ensuring truly ubiquitous broadband and massive IoT connectivity. This special session focuses on the architectural, protocol, and algorithmic innovations required to realize converged space-air-ground networks. Topics of interest include integrated NTN-terrestrial network design, dynamic spectrum sharing and coexistence, handover and mobility management in high-velocity scenarios, AI-native resource orchestration, integrated sensing and communication, and 3GPP standardization advances for NTN protocols. We also welcome contributions on energy-efficient satellite payloads, resilient backhaul solutions, and experimental demonstrations. This session aims to bridge the gap between academic research and industry deployment, fostering interdisciplinary collaboration to accelerate the development of intelligent, resilient, and globally connected next-generation communication systems.



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Topic of Interest

- NTN architecture design for 5G-Advanced and 6G systems
- 3GPP NTN protocol enhancements and standardization progress
- Integrated terrestrial-satellite backhaul for seamless connectivity
- NTN-based IoT and massive machine-type communications (mMTC)
- Timing synchronization and frequency compensation in NTN scenarios

- HAPS-assisted NTN for enhanced coverage and capacity
- Multi-access edge computing (MEC) in NTN environments
- Coexistence and spectrum sharing between terrestrial and satellite systems
- NTN beam management and coverage optimization techniques
- NTN use cases: maritime, aeronautical, and rural broadband services

Important Dates

Submission Due:	2026-July 1st
Notification Due:	2026-July 25
Camera-ready Due:	2026-August 10

Submission



Submission Link:

<https://easychair.org/conferences/?conf=icct2026>
(Please choose Special Session 3)