

IEEE GNSS+R 2021



IEEE Specialist Meeting on Reflectometry using GNSS and other Signals of Opportunity 2021

September 14-17, 2021 • Virtual Meeting • <https://ieeegnssr2021.org/>

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- Yueqiang Sun (chair)
NSSC/CAS
- Jens Wickert (co-chair)
GFZ
- Manuel Martin-Neira (co-chair)
ESA
- Estel Cardellach (co-chair)
ICE-CSIC/IEEC

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CALL FOR PAPERS

The GNSS+R 2021 workshop aims to provide a forum for the leading experts and young researchers working on the science, engineering, technology of GNSS-Reflectometry (GNSS-R), reflectometry using other sources of opportunity (SoOP-R), and their applications for ocean, land, atmosphere, weather and climate research. It invites the related international communities to come together and share their recent results and plans for the future as well as to initiate new collaborations and projects in the fruitful atmosphere of this highly topical workshop.

GNSS-R and SoOP-R (also known as GNSS+R) remote sensing from ground, airborne and space-based observation platforms is the focus of geophysical and engineering research with a broad spectrum of Earth observation applications, which exhibits unique characteristics to complement other active and passive Earth observation methods. Geophysical parameters, which can be sensed by GNSS+R include ocean surface winds, sea surface height, soil moisture, ice properties, snow water equivalent, and vegetation biomass. One significant attribute is its leveraging of existing and ubiquitous GNSS infrastructure, consisting of multiple constellations of transmitting GNSS and communication satellites with dedicated ground operational support and large ground-based receiver networks. This infrastructure assures the reliability and continuity of the transmission signals and supports the foundation for many potential applications in Earth Observation.

Before the launch of GNSS-R spaceborne missions, promising results were demonstrated through air-borne and land-based experiments. The first spaceborne GNSS-R mission was UK-DMC satellite launched in 2003. It was followed by the UK TechDemoSat-1 mission launched in 2014, and NASA CYGNSS small satellite constellation launched in 2016. From 2019, China's FY-3E GNOS II and Bufeng-1 A/B, Spire CubeSats and ESA FSSCAT CubeSats, all carrying GNSS-R payloads, have also been successfully launched. Additionally, ESA PRETTY satellite will demonstrate GNSS-R altimetric performances from Space (launched in 2022), and HydroGNSS, targeting hydrological Essential Climate Variables (ECV), has been selected as ESA Scout mission. Furthermore, NASA is developing the first reflectometry mission based on other signals of opportunity at P-band (SNOOPI mission, to be launched in 2021).

The GNSS+R workshop 2021 will continue with the major topics of the very successful GNSS+R workshop series. The 2021 workshop offers in addition for the first time in the GNSS+R history a dialog platform for the GNSS+R and GNSS RO communities. The scientific discussions among the members of these communities and the ocean, land, cryosphere, atmosphere, weather and climate data users are crucial to optimally exploit the scientific opportunities of the GNSS+R and GNSS RO. A dialogue between data providers and users in the ocean, land, cryosphere, weather and climate fields is important to ensure optimal use of the innovative remote sensing data for both research and operational applications.

A special issue of the Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS) is planned to collect and peer-review the papers of the conference.

The GNSS+R 2021 workshop was to be held in Beijing, China, hosted by the National Space Science Center, Chinese Academy of Sciences (NSSC/CAS). It was moved to a virtual event due to the COVID-19 pandemic.

TOPICS

We invite contributions that focus on all aspects of GNSS-R and SoOP-R, including, but not limited to:

- Satellite missions
- Ground and airborne experiments
- Theoretical modeling
- Calibration/validation and signal processing
- Instrumentation and technology
- Applications in ocean, land, snow, ice and atmosphere
- Data assimilation
- Radio occultation and other related fields

DATES (TBD)

Abstracts Submission Opening	Coming Soon
Abstracts Submission Deadline	July 31, 2021
Notification of Acceptance	August 15, 2021
Registration Opening	July 1, 2021
Workshop Dates	September 14-17, 2021