



**IUGG**



**International Association  
of Geodesy**

# Newsletter

## March 2021

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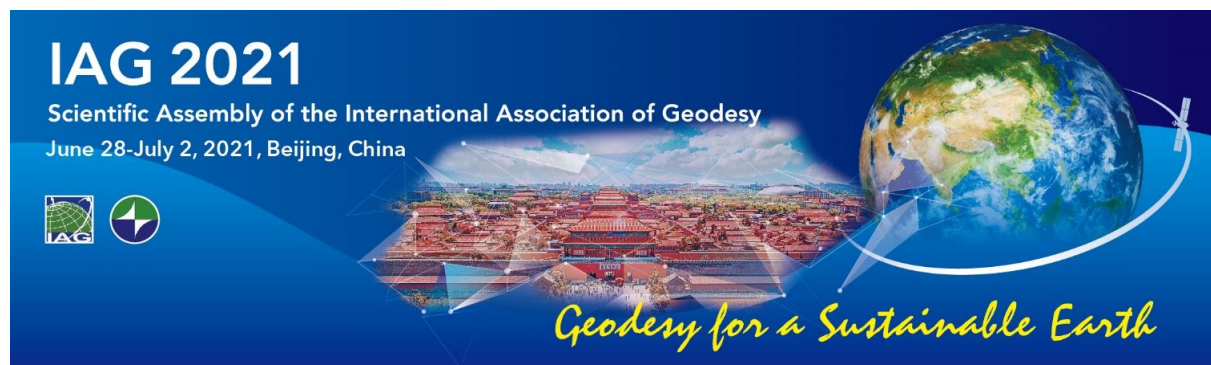
The *IAG Newsletter* is under the editorial responsibility of the *Communication and Outreach Branch (COB)* of the IAG.

It is an open forum and contributors are welcome to send material (preferably in electronic form) to the IAG COB. These contributions should complement information sent by IAG officials or by IAG symposia organizers (reports and announcements). The *IAG Newsletter* is published monthly. It is available in different formats from the IAG new internet site: <http://www.iag-aig.org>

Each *IAG Newsletter* includes several of the following topics:

- I. news from the Bureau Members
- II. general information
- III. reports of IAG symposia
- IV. reports by commissions, special commissions or study groups
- V. symposia announcements
- VI. book reviews
- VII. fast bibliography

## General Announcements



### IAG 2021

*Dear Colleagues,*

The IAG Scientific Assembly will be held in Beijing on June 28–July 2, 2021. The Scientific Assembly is a quadrennial event, in the middle of the periods between the IUGG General Assemblies. Due to the ongoing COVID-19 pandemic, the Scientific Assembly will be organized as a virtual meeting. Due to the exceptional and challenging circumstances, it took time to finalize all details and to ensure that we will have a full and high-quality programme.

The Theme of the Symposium is Geodesy for a Sustainable Earth. There will be eight Symposia, with topics covering the activities of IAG Commissions, Services, Inter-Commission Committees and a timely topic on Geohazards. Full list of the scientific programme and sessions therein can be found on the official web site <http://www.iag2021.com>. The web site is open for registration and abstract submission.

**Important dates and deadlines** (see more details on the web site <http://www.iag2021.com>):

Registration Deadline:	<b>June 25</b>
Abstract submission Deadline:	<b>April 30</b>
Acceptance of the Abstracts:	<b>May 15</b>
Pre-recorded video upload Deadline:	<b>June 5</b>
E-poster upload Deadline:	<b>June 5</b>
Scientific Assembly:	<b>June 28-July 2</b>

### Registration

The local organizers and the IAG have worked to keep on-line registration fee as low as possible, and IAG individual members receive a discounted fee. For non-IAG members the fee is US\$ 150, and for IAG members US\$ 75. Abstract submission fee is US\$ 40. Additionally, the participation fee will be waived for members of several groups, who must send a request to the Secretary General of the IAG to receive this fee waiver:

- Full-time students from undergraduate to PhD students, who must also submit a student certificate or letter from their department.
- Early career scientists (below age 35) if they have an accepted presentation (oral or poster) in the Symposium.
- Scientists from developing countries.

### Opportunity for free, open access publication in the IAG renowned Symposia Series

The Assembly participants are invited to submit an abstract for oral or poster presentation at one of the Symposia. Authors of accepted presentations (oral or poster) are welcome to offer the full paper in the IAG renowned Symposia Series published by Springer. This series is now fully Open Access and the primary mode of publication is on-line (individual papers, and an e-book once all papers are finished). The papers will be on-line and Open Access shortly after each paper is accepted, so that they do not have to wait for the entire volume to be completed. All papers will eventually be searchable through the volume once the volume is finalised. The Open Access fees for the IAG Scientific Assembly participants are covered by the IAG; thus, the first author shall be

the participant of the Assembly. The IAG Symposia Series is indexed in Web of Science (book by book) and in Scopus (as a series).

The LOC and SOC have done their best that the Symposium will offer a full experience regardless of the demanding circumstances. We have increased the interactive part of sessions with the possibility of meeting speakers virtually and having discussions with them. Poster sessions will also have interactive possibilities and to ask questions of the authors.

We hope to see you in the IAG Scientific Assembly 2021. You are very warmly welcome.

Markku Poutanen  
IAG Secretary General.

## *Advances In Space Research*

Dear colleagues,

for your information, issue 67(1) of *Advances in Space Research* (COSPAR official journal), was published on January 1, 2021. As a promotional OpenAccess has been provided by Elsevier, all articles of this issue will remain free-of-charge to anyone without any paid subscription to this journal for the complete year at <https://www.sciencedirect.com/journal/advances-in-space-research/vol/67/issue/1>

While it is a very large issue (51 papers and 714 pages), the selected articles below could be of scientific interest to our geodetic community.

I remind you that ASR publishes 24 issues per year (2 issues of 20 or more papers each per month), that accepted papers appear online with a DOI in “accepted proofs” only a couple of days after acceptance and that this journal accepts electronic supplements and supports OpenAccess. Review process takes on average about 9 weeks before the first decision is sent back to the authors (4 weeks to find proper reviewers and 5 weeks to get their report and make a first decision). Published articles are referenced in ISI Web of Science, Scopus and many other scientific databases. This journal also accepts Special Issues. Its Impact Factor has been steadily increasing in the past few years and is now 2.177.

Submissions can be done electronically at any time using the EES System (<http://ees.elsevier.com/asr>).

More information on this journal can be found at <https://www.journals.elsevier.com/advances-in-space-research>

Pascal Willis  
Editor-in-Chief  
*Advances in Space Research*



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### **EARTH MAGNETOSPHERE AND UPPER ATMOSPHERE**

R. Orus-Perez, B. Nava, J. Parro and A. Kashcheyev  
ESA UGI (Unified-GNSS-Ionosphere): An Open-source Software to Compute Precise Ionosphere Estimates  
*Advances in Space Research*, 67(1), 56-65, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.09.011>

Jian Feng, Yufeng Zhou, Yan Zhou, Shuaihe Gao, ... and Yi Liu  
Ionospheric Response to the 17 March and 22 June 2015 Geomagnetic Storms over Wuhan Region Using GNSS-Based Tomographic Technique  
*Advances in Space Research*, 67(1), 111-121, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.10.008>

### **EARTH SCIENCES**

Jiangjun Ran, Natthachet Tangdamrongsub and Xiaoyun Wan  
The Impact of Error Covariance Matrix Structure of GRACE's Gravity Solution on the Mass Flux Estimates of Greenland Ice Sheet  
Advances in Space Research, 67(1), 163-178, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.07.012>

Jungang Yan, Lining Xing, Pei Wang, Leyuan Sun and Yingwu Chen  
A Scheduling Strategy to Inter-satellite Links Assignment in GNSS  
Advances in Space Research, 67(1), 198-208, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.09.023>

Min Li, Yunbin Yuan, Baocheng Zhang and Mingming Liu  
Estimation of Differential Code Biases with Jason-2/3 Onboard GPS Observations  
Advances in Space Research, 67(1), 209-222, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.09.024>

Xiao Gao, Zhiqiang Yang, Yuan Du and Bing Yang  
An Improved Real-time Cycle Slip Correction Algorithm based on Doppler-aided Signals for BDS Triple-frequency Measurements  
Advances in Space Research, 67(1), 223-233, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.09.028>

Lin Pan, Xiao Gao, Jiahuan Hu, Fujian Ma, ... and Weiwang Wu  
Performance Assessment of Real-time Multi-GNSS Integrated PPP with Uncombined and Ionospheric-free Combined Observables  
Advances in Space Research, 67(1), 234-252, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.09.029>

#### **ASTRODYNAMICS AND SPACE DEBRIS**

Xiaozhou Ye, Wenxiang Liu, Yong Zuo, Wei Wang, ... and Feixue Wang  
Analysis of BDS-3 Distributed Autonomous Navigation based on BeiDou System Simulation Platform  
Advances in Space Research, 67(1), 401-410, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.10.004>

#### **SPACE TECHNOLOGY, POLICY AND EDUCATION**

D. Bortoluzzi, D. Vignotto, A. Zambotti, M. Armano, ... and P. Zweifel  
In-flight testing of the injection of the LISA Pathfinder test mass into a geodesic  
Advances in Space Research, 67(1), 504-520, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.09.009>

Qiang Xu, Xiaohu Fan, Aigang Zhao, Hongliang Cui, ... and Bangping Ding  
Pre-correction X-ray Pulsar Navigation Algorithm based on Asynchronous Overlapping Observation Method  
Advances in Space Research, 67(1), 583-596, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.10.019>

Yongliang Yan  
Capacity Building in Regional Space Cooperation: Asia-Pacific Space Cooperation Organization  
Advances in Space Research, 67(1), 597-616, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.10.022>

#### **SOLAR SYSTEM BODIES**

Roberto Furfaro, Riccardo Barocco, Richard Linares, Francesco Topputo, ... and Lucille Le Corre  
Modeling Irregular Small Bodies Gravity Field via Extreme Learning Machines and Bayesian Optimization  
Advances in Space Research, 67(1), 617-638, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.06.021>

#### **SOLAR AND HELIOSPHERIC PHYSICS**

László Szarka, Willie W.-H. Soon and Rodolfo G. Cionco  
How the Astronomical Aspects of Climate Science were Settled? On the Milankovitch and Bacsák Anniversaries,  
with Lessons for Today  
Advances in Space Research, 67(1), 700-707, 2021  
DOI: <https://doi.org/10.1016/j.asr.2020.09.020>

## Meeting Announcements

### *UN-GGIM Global Geodesy Forum on Earth Day*

**Every day, humanity benefits from geodesy. An amazing panel of speakers will present the benefits of geodesy to society in a virtual open forum 10.30 am (UTC) on 22 April 2021, Earth Day.**

The Global Geodesy Forum “Power of where: The value of Geodesy to Society” is organized by the UN-GGIM Subcommittee on Geodesy and will focus on the significance of geodesy for the wellbeing and betterment of society, environment and economy.

#### **Global Geodesy Ambassador**

The United Nations Secretary-General's Special Envoy for the Ocean, the Honorable Ambassador Peter Thomson, who is also the Global Geodesy Ambassador, will provide the opening address.

Ambassador Peter Thomson from Fiji introduced the resolution ‘A Global Geodetic Reference Frame for Sustainable Development’ ([A/RES/69/266](#)) to the United Nations General Assembly in 2015.

#### **Crucial role of geodesy**

The forum will also highlight the benefits enabled by an accurate and reliable Global Geodetic Reference Frame (GGRF), and the crucial role of geodesy in providing safer and more resilient communities. Target groups are policy- and decision makers, chief executives, director-generals and senior executives from Member States and relevant stakeholders in the global geospatial community.

If decision makers and donors do not understand the value of an investment in the GGRF, they are unlikely to prioritize GGRF investments above other initiatives

More information and connection details:

[https://ggim.un.org/meetings/2021/Global\\_Geodesy\\_Forum/](https://ggim.un.org/meetings/2021/Global_Geodesy_Forum/)

Anne Jørgensen

### *44th Scientific Assembly of the Committee on Space Research (COSPAR) and Associated Events "COSPAR 2022"*

Date:

16 - 24 July 2022

Place:

Athens, Greece

Contact:

[cospar@cosparhq.cnes.fr](mailto:cospar@cosparhq.cnes.fr)

<https://www.cospar-assembly.org>

Abstract Deadline:

Mid-February 2022

Topics:

Approximately 140 meetings covering the fields of COSPAR Scientific Commissions (SC) and Panels:

- SC A: The Earth's Surface, Meteorology and Climate
- SC B: The Earth-Moon System, Planets, and Small Bodies of the Solar System
- SC C: The Upper Atmospheres of the Earth and Planets Including Reference Atmospheres
- SC D: Space Plasmas in the Solar System, Including Planetary Magnetospheres
- SC E: Research in Astrophysics from Space
- SC F: Life Sciences as Related to Space
- SC G: Materials Sciences in Space
- SC H: Fundamental Physics in Space
- Panel on Satellite Dynamics (PSD)
- Panel on Scientific Ballooning (PSB)
- Panel on Potentially Environmentally Detrimental Activities in Space (PEDAS)
- Panel on Radiation Belt Environment Modelling (PRBEM)
- Panel on Space Weather (PSW)
- Panel on Planetary Protection (PPP)
- Panel on Capacity Building (PCB)
- Panel on Education (PE)
- Panel on Exploration (PEX)
- Panel on Interstellar Research (PIR)
- Panel on Innovative Solutions (PoIS)
- Task Group on Establishing a Constellation of Small Satellites (TGCSS)
- Special events: interdisciplinary lectures, round table, etc.

Selected papers published in *Advances in Space Research* and *Life Sciences in Space Research*, fully refereed journals with no deadlines open to all submissions in relevant fields.

A. Janofsky  
Associate Director  
COSPAR

## *Meetings Calendar*

### *IAG Sponsored Meetings*

#### *EUREF 2021 Symposium*

*May 26 –28, 2021, Ljubljana, Slovenia*

URL: <https://euref2020.si/>

#### *19th International Symposium on Geodynamics and Earth Tides (G-ET Symposium 2020)*

*June 22 –26, 2021, Wuhan, China*

URL: <http://get2020.csp.escience.cn/>

#### *IAG Scientific Assembly*

*June 28 – July 2, 2021, Beijing, China*

URL: <http://www.iugg.org/meetings/assemblies.php>

#### *The 6th Satellite Soil Moisture Validation and Application Workshop*

*September 14 – 16, 2021, Perugia, Italy*

URL: <http://venti-eventi.com/>

#### *IGS Workshop "IGS 2021: Science from Earth to Space"*

*September 27 – October 1, 2021, Boulder, CO, USA*

URL: <https://www.igsbc.org/workshop2021/>

Unified Analysis Workshop 2021

October 5 – 8, 2021, Munich, Germany

URL: <https://ggos.org/event/unified-analysis-workshop-uaw-2021/>

GGOS Days 2021

October 11 – 13, 2021, Munich, Germany

URL: <https://ggos.org/event/ggos-days-2021/>

20<sup>th</sup> Assembly of Wegener

October 25 – 29, 2022, Marrakech, Morocco

URL: <https://wegener2021.sciencesconf.org/>

2nd International Symposium of Commission 4: Positioning and Applications

September 5 – September 9, 2022, Potsdam, Germany

URL: <https://www.iag-commission4-symposium2022.net/>

*IAG Related Meetings*

AOGS Annual 18th Meeting

August 1-6, 2021, Singapore

URL: [http://www.asiaoceania.org/society/public.asp?view=up\\_coming](http://www.asiaoceania.org/society/public.asp?view=up_coming)

COSPAR 2022

July 16-24, 2022, Athens, Greece

44th Scientific Assembly of the Committee on Space Research (COSPAR) and Associated Events

URL: <https://www.cospar-assembly.org>