

**1<sup>st</sup> Circular: Forum on “Measurement disparities in the scientific parameter space of Earth observation sensors at the example of Imaging Spectrometers” – June 11-13, 2024**

**Dear Participants to the above Forum,**

We are pleased that you take part in an ISSI Forum on “*Measurement disparities in the scientific parameter space of Earth observation sensors at the example of Imaging Spectrometers*”.

The meeting will be held by June 11-13, 2024 (Tuesday to Thursday) at ISSI’s premises in Bern/Switzerland.

The convenors for the Forum are Jennifer Adams, Raquel De los Reyes, Javier Gorrondo, Jens Nieke, Cindy Ong, Kurt Thome, Mike Werfeli, Michael Rast.

As indicated earlier, ISSI [Forums](#) are informal and free-ranging debates, among some fifteen to twenty-five high-level participants, on open questions of a scientific nature or on science policy matters. The expectation is that Forums can lead to scientific recommendations, which are published as a kind of strategy- or white paper.

The Forum will start on the **Tuesday 11.06.2024 at 09:00 hrs. and adjourn on the Thursday 13.06.2023 at 15:30.**

To satisfy the increasing demand for ready-to use Earth Observation (EO) data, an intensified global cooperation is needed. Especially given the growing scientific and commercial exploitation of EO data on global scale, a unified confidence of the data characteristics, quality and reliability must be defined and communicated. For EO data, Calibration and Validation and sensor intercomparison are, amongst others, fundamental pillars of upcoming scientific optical imaging missions to enable quantitative application of imaging spectroscopy techniques across different missions. Hence, it is of great importance to have commonly accepted protocols on how best to measure and most importantly how to report on the data quality metrics.

**Forum Objective:**

Operators of space-borne optical Earth observation sensors often use a variety of definitions and practices and procedures to get from radiances received by the sensor in the form of digital counts to higher level data products, which are not necessarily standardised between different spacecraft operators, space agencies and communities of practice. The main objective of this Forum is to establish a common strategy for handling scientific space-based sensor artefacts and understand the reasons for disparity between the respective measurement data sets of various sensors, retrieved using different processing algorithms, atmospheric transfer models and/or other assumptions. Consequently, this Forum shall contribute to the finding of a common

ground for a set of keys, to translate from one mission to the other and making these easier intercomparable at higher levels.

The Forum shall also seek to outline the key requirements/concepts/recommendations for a reference to which operators of scientific space-based imaging spectroscopy missions can adhere to. While some space agencies are starting to initiate a quantitative analysis of these uncertainty terms, this is still often outside the scope of satellite mission projects. Therefore, an assessment driven by reasonable assumptions on which of these terms contribute more to the uncertainty budget will be relevant to drive further investigations with a view to gaining confidence in error assumptions of higher-level scientific data products.

Please be reminded that this is a Forum, where we seek to have open discussions on urgent scientific topics and open questions. Therefore, we do not plan to only have frontal text presentations but rather open group discussions, to create a road map/white paper on strategies how to deal with scientific disparities between current and future space – based sensors.

### **Location and Travelling to Bern**

The Workshop will be held at the International Space Science Institute, Hallerstrasse 6, 3012 Bern, Switzerland. Bern is connected to many European cities by fast intercity trains (e.g. TGV Paris-Bern in 4.5 hours, or Frankfurt-Bern 5 hours). Bern can also be reached easily from three international airports: Zurich (ZRH), Basel (BSL/MLH) and Geneva (GVA). We encourage participants to travel by train, whenever possible. Timetable information of trains within and around Switzerland can be found at [www.rail.ch](http://www.rail.ch). Also check out our website [www.issibern.ch](http://www.issibern.ch) for a few more travel tips such as links to city maps of Bern, weather forecasts, tourist information and so on.

### **Hotel reservations**

A block booking has been made in city centre hotels for the Forum. **All participants are requested to contact the Forum secretary, Dominique Fuchs (email: [secretary@issibern.ch](mailto:secretary@issibern.ch) or Tel. +41-31-684-4896), to indicate their arrival and departure dates**, as well as any special requests they may have (e.g. double room). Please note that all hotel reservations have to be made by the ISSI Secretariat. Workshop participants are asked to submit their hotel booking request to the ISSI Secretariat by **April 19**, at the latest.

**Important:** all hotel bookings related to ISSI meetings are handled exclusively and directly by the staff in the ISSI secretariat, who will use their institutional e-mail addresses ending in @issibern.ch to communicate with all relevant visitors. ISSI does not work with external companies to coordinate hotel bookings. Any e-mails from external addresses requesting personal details on behalf of ISSI are scamming attempts and should be deleted.

**Invitation letters for, e.g., visas can be requested by the ISSI Secretariat (same address) and will be sent within a few days.**

**Forum Webpage:**

<https://forum.issibern.ch/measurement-disparities-scientific-parameter/>

**Forum Agenda:**

A draft agenda with a set of interventions, discussion topics and seed questions has been uploaded on the Forum web-page. We have taken the liberty to pencil the names of some of you against the Forum topics. Please let us know, in case you would like to amend the agenda to that extent.

**Location:**

The workshop will be held at the International Space Science Institute, Hallerstrasse 6, 3012 Bern, Switzerland.

Attendance: by invitation only, ~ 25 participants

**Funding:**

ISSI will provide the subsistence costs (hotel and a per diem) to all participants. Travel costs are not refunded. There is no registration fee.

Kindly get in touch in case of questions

On behalf of the convenors

With best wishes,

Mike Werfeli  
(University of Zürich)

Michael Rast  
(ISSI Bern)

Bern, April 4, 2024