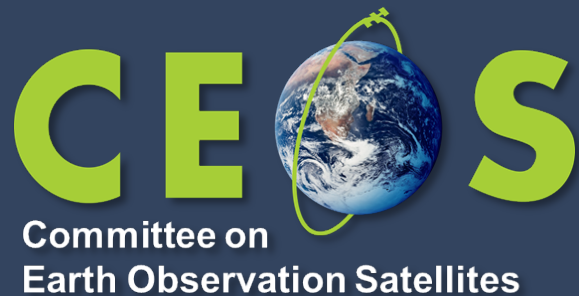


AC-VC-19/ACSG Joint meeting 2023

*CEOS Cal/Val Portal
status and updates*



**Paolo Castracane,
Rhea System for ESA/ESRIN**

Brussels, Belgium/Hybrid

24th - 27th Oct. 2023

Table of Contents



- CEOS Cal/Val Portal Overview
- ACTIONS from WGCV-52
- Software Updates
- Content Updates
- Outreach

CEOS Cal/Val Portal Overview

The CEOS Cal/Val portal (<https://calvalportal.ceos.org/>) serves as the main forum for exchange and information sharing for the CEOS Working Group on Calibration and Validation.

it provides access to agreed good practices and Cal/Val protocols to the wider Earth Observation community within CEOS and beyond.

It connects users to reference data and networks and provides reliable, up-to-date and user-friendly information useful for Cal/Val tasks, facilitating data interoperability and performance assessment through an operational CEOS coordinated and internationally harmonised Cal/Val infrastructure consistent with QA4EO principles.

CEOS Cal/Val Portal

Cal/Val Home

Home | CEOS WGCV | Documents | Cal/Val Sites | Projects | Tools | Cal/Val Data | Campaigns | Conf. & Workshops | Contacts | Welcome GUEST | Sign In

search... Everything

News

- SALVAL tool webpage
- QA4SM Evolution in FRM4SM
- CEOS WGCV LPV DIRECT V2.1 database
- TSIS-1 HRSR solar irradiance reference spectrum
- SRIX4VEG 1st Workshop

CEOS WGCV

- CEOS WGCV
- WGCV Subgroups
- WGCV Meetings

Tweets from @CEOS_WGCV

CEOS WGCV Cal/Val ...
@CEOS_WGCV · Jul 5

The Spring 2022 issue of the GSICS Quarterly Newsletter is available [DOI: 10.25923/k616-bk13].
shorturl.at/aMO48

GSICS Quarterly
Newsletter Spring 2022 Issue

The potential of deep convective clouds for vicarious calibration of Geostationary UV/VIS hyperspectral spectrometer

Numbers/CCN



<https://calvalportal.ceos.org>

Some numbers: 24th Oct. 2023:

Users

1199 Registered Users

154 CEOS WGCV SAR Subgroup and 3 super-users

45 MTF Members

6 Cal/Val Doc Repository (rights for editing)

21 Terms and Definitions (rights for editing)

System availability

BC uses Nagios (<http://www.nagios.org/>) for monitoring the IT services.

The availability of the Cal/Val Portal is close to 100%.



The CCN1 for “CEOS Cal/Val Portal and MySPPA maintenance and support” extension until 31 December 2024

Actions WGCV-51



ID	Description	Current status
WGCV-51-ACT-09	Nigel Fox and Paolo Castracane to update the wording on the Cal/Val Portal regarding solar irradiance spectrum references .	Input provided by Nigel – Updates on CEOS Cal/Val portal (June)
WGCV-51-ACT-10	Nigel Fox and Paolo Castracane to investigate the creation of a private IVOS section of the Cal/Val Portal that would allow for peer review by IVOS members of proposed radiometric calibration methodologies and associated documentation/uncertainties before publishing to a wider audience.	<div style="border: 2px solid black; padding: 10px; text-align: center;"> <p>In progress – see slide on IVOS Calibration DE</p> </div>
WGCV-51-ACT-21	Paolo to work with the GISTDA team to include THEOS-1 calibration site data on the Cal/Val Portal.	GISTDA Cal/Val web portal is still under construction. preliminary version at the URL: https://sites.google.com/gistda.or.th/calval
WGCV-51-ACT-22	Philippe Goryl, Jean-Christopher Lambert and Paolo Castracane to discuss additional atmospheric composition guidance for the Cal/Val Portal.	To be discussed: same approach used for other documents (e.g. Hyperspectral Cal/Val resources and FRM assessment framework could be applied) ???

Actions WGCV-52



Action	Description	Comment	Reply	Due date	Status
WGCV-52-ACT-26	<p>WGCV to consider any additional feedback on the hyperspectral cal/val resources page that has been published on the cal/val portal.</p> <p>In parallel send to Ben Poulter to complete outstanding action: WGCV-51-ACT-14.</p>	<p>Could you please add some details on the Hyperspectral cal/val resources document related to aquatic and ocean sites in the 'Networks' section? Also, could you please add some information on solar spectral points under the 'Guidelines and Protocol section' that Cindy has mentioned in the document?</p> <p>Once that's done we can go ahead and publish the document in Cal/Val portal. Let me know if it's easier for you to provide me with login credentials for the cal/val portal site and if you would like me to add the page to the portal myself.</p>	<p>Page available on: https://calvalportal.ceos.org/web/guest/hyperspectral-calval-resources</p>	Sep.	CLOSED
WGCV-52-ACT-31	<p>Paolo Castracane and Nigel Fox to send a revised CEOS-FRM Assessment Framework following the review by the community.</p>	<p>We have received quite a few feedback points on the FRM Assessment Framework document: https://docs.google.com/document/d/1b5jiMvFXriDG010CXkGdz9PWrgfxQ-xD/edit</p> <p>Should I proceed to accept the suggested edits and leave the queries open for your attention?</p> <p>I would also appreciate some guidance on the next steps for the assessment document. Regarding sharing the updated document with the WGCV list, should we aim to do so around mid-September and invite them to undertake some example self-assessments to assess the applicability of the FRM assessment framework? We could then request them to share their examples at WGCV-53.</p> <p>We are also planning to hold the next WGCV telecon in late September or early October ahead of SIT-TW. We could address this topic during the telecon as well.</p> <p>Please let me know your thoughts.</p>	<p>Page available on: https://calvalportal.ceos.org/web/guest/frms-assessment-framework</p>	Sep.	CLOSED

Actions WGCV-52



Action	Description	Comment	Reply	Due date	Status
WGCV-52-ACT-35	Paolo Castracane to update the cal/val portal section on the CEOS Reference Solar Irradiance Spectrum to re-add cover note / disclaimer (ref: slide 24, IVOS presentation).	<p>I have just created the page for the CEOS reference Solar Irradiance Spectrum on the Cal/Val Portal</p> <p>https://calvalportal.ceos.org/en/web/guest/solar-irrad-spectrum</p> <p>In this page I have included the link to the TSIS-1 HSRS dedicated page for Version 2 in preparation</p> <p>Note that this new entry page is also accessible from: CEOS WGCV -> IVOS -> Theme/Topic areas->Solar Irradiance Spectrum</p> <p>But also from: Documents-> CEOS Reference Solar Irradiance Spectrum</p> <p>and in the list of Methods, Guidelines and standards</p> <p>(see slide)</p>		July	Closed pending any further input from Nigel

Actions WGCV-52



Action	Description	Comment	Reply	Due date	Status
WGCV-52-ACT-37	WGCV Secretariat and Paolo Castracane to explore opportunities to better communicate IVOS (and all subgroup) outputs, starting with the SITSCOS report. Perhaps elevate this through CEOS Cal/Val portal newsletter and CEOS social media channels.	No progress on this topic during summer		July->?	In progress
WGCV-52-ACT-38	Paolo Castracane to work with WGCV Secretariat to ensure broad distribution of WGCV newsletter content - cross-posting to all CEOS mailing lists, CEOS Newsletter, CEOS social media, etc. Also consider printed formats, etc.	Newsletter not yet completed. Plan is to have this in September.		Jul -> Sep.	In progress
WGCV-52-ACT-39	WGCV Secretariat and Paolo Castracane to consider inputs for the upcoming GSICS newsletter. Send a call for inputs from WGCV and subgroup chairs.	Philippe and I have sent (on 30 th Aug) input to Manik for a Summary of the WGCV-52 meeting to be included in the next GSICS Newsletter.		July-> Aug.	CLOSED pending further input from Manik (GSICS Newsletter editor)

WGCV-51-ACT-10 IVOS Calibration DB



Collect information

IVOS teams will be requested to fill out a web-form or submit a formatted table containing information on a specific calibration method

This information represents one item of the Calibration Database who has the aim to collect all the calibration methods in the IVOS domain. At the first ingestion the item is flagged V=0.0 (Version 0.0). This information is collected and kept reserved for a dedicated group (e.g. IVOS members + CEOS representative)

Endorsement by CEOS

CEOS representative review the info provided. A dedicated IVOS forum can be useful to exchange opinion within the IVOS Community and support the decision. It can be requested to the provider to update the content (e.g. 0.1, 0.2). Once information are considered appropriated, the item is flagged 1.0. and is considered CEOS endorsed and public available.

Then the item can be update and version increased

Public Calibration Database

All the endorsed items (i.e. V = or > 1.0) of the Calibration Database are queryable and accessible.

Only the latest version are made available to the public (but all the history is kept in the database)

Name of Method		RadCalNet (RCN) Gobabeb Site (GONA)																																																																																																																										
Nature of calibration		Radiometric gain,																																																																																																																										
Date of submission		08/09/2023				Date of last review/update		dd/mm/yyyy.																																																																																																																				
Contact details																																																																																																																												
Spectral range of method		380-2500 nm																																																																																																																										
GSD of method (all that apply)		<10 <input checked="" type="checkbox"/>	<50 <input checked="" type="checkbox"/>	<300 <input type="checkbox"/>	<1000 <input type="checkbox"/>	<10000 <input type="checkbox"/>																																																																																																																						
Description of method		<p>From referenced paper:</p> <ul style="list-style-type: none"> Extract predicted TOA nadir reflectance values including uncertainties Determine test sensor output for the site and associated uncertainties Perform a temporal correction to the TOA reflectances Determine the band-integrated TOA reflectance and associated uncertainty Convert TOA reflectances and associated uncertainty to appropriate units for comparison with test sensor output Compare imagery sensor output to corresponding RCN-based TOA reflectance and determine uncertainty associated with the test sensor output 																																																																																																																										
Reference:		<p>Bouvet, M.; Thome, K.; Bernier, J.; et al. RadCalNet: A Radiometric Calibration Network for Shortwave Infrared Spectrometry. Remote Sensing, 2018, 10(12), 2018-2032.</p>																																																																																																																										
Estimated expanded uncertainty (k=2) for nominal spectral regions:		400-500			500-700																																																																																																																							
		~4.2%			~3.6%																																																																																																																							
Evidence of performance		<p>As part of joining RCN, site documents for the Gobabeb site are available.</p> <ul style="list-style-type: none"> BOA values are available TOA values calculated RadCalNet site calibration documents 																																																																																																																										
		<table border="1"> <thead> <tr> <th>Validation against reference sensor</th> <th colspan="2">Sentinel-2A</th> <th colspan="2">Sentinel-2B</th> <th colspan="2">Landsat 8</th> <th colspan="2">Landsat 9</th> <th colspan="2">MODIS/Aqua</th> <th colspan="2">N20 VIIRS</th> </tr> <tr> <th>Date</th> <th colspan="2">May 2023</th> <th colspan="2">mm/yyyy.</th> <th colspan="2">May 2023</th> <th colspan="2">mm/yyyy.</th> <th colspan="2">mm/yyyy.</th> <th colspan="2">mm/yyyy.</th> </tr> </thead> <tbody> <tr> <td rowspan="6">Per band: Results of % difference obtained for sensor TOA rad/ref, compared to the sensor value as per agency specified value on given date.</td> <td>B1</td> <td>-2.1</td> <td></td> <td></td> <td>B1</td> <td>N/A</td> <td></td> <td></td> <td>B9</td> <td></td> <td>M2</td> <td></td> </tr> <tr> <td>B4</td> <td>-1.6</td> <td></td> <td></td> <td>B4</td> <td>N/A</td> <td></td> <td></td> <td>B1</td> <td></td> <td>I1</td> <td></td> </tr> <tr> <td>B8</td> <td>-1.9</td> <td></td> <td></td> <td>B5</td> <td>N/A</td> <td></td> <td></td> <td>B16</td> <td></td> <td>I2</td> <td></td> </tr> <tr> <td>B11</td> <td>3.5</td> <td></td> <td></td> <td>B6</td> <td>N/A</td> <td></td> <td></td> <td>B6</td> <td></td> <td>I3</td> <td></td> </tr> <tr> <td>B12</td> <td>N/A</td> <td></td> <td></td> <td>B7</td> <td>N/A</td> <td></td> <td></td> <td>B7</td> <td></td> <td>M11</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>B10</td> <td>N/A</td> <td></td> <td></td> <td>B21</td> <td></td> <td>M12</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>B34</td> <td></td> <td>M16</td> <td></td> </tr> </tbody> </table>												Validation against reference sensor	Sentinel-2A		Sentinel-2B		Landsat 8		Landsat 9		MODIS/Aqua		N20 VIIRS		Date	May 2023		mm/yyyy.		May 2023		mm/yyyy.		mm/yyyy.		mm/yyyy.		Per band: Results of % difference obtained for sensor TOA rad/ref, compared to the sensor value as per agency specified value on given date.	B1	-2.1			B1	N/A			B9		M2		B4	-1.6			B4	N/A			B1		I1		B8	-1.9			B5	N/A			B16		I2		B11	3.5			B6	N/A			B6		I3		B12	N/A			B7	N/A			B7		M11						B10	N/A			B21		M12										B34		M16	
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		<p>User feedback comments</p>																																																																																																																										

Hyperspectral Cal/Val Resources



Hyperspectral Cal/Val Resources

<https://calvalportal.ceos.org/web/guest/hyperspectral-calval-resources>

- Introduction
- Networks
- Guidelines and Protocols
- Campaigns and Inter-comparison Exercise
- Instrumentation and Hardware
- Mission-Specific Resources

CEOS Cal/Val Portal
Hyperspectral Cal/Val Resources

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Hyperspectral Cal/Val Resources: Introduction

The "Hyperspectral Cal/Val Resources" document was created following the request made to the CEOS for guidance on Cal/Val hyperspectral reference instrumentation for: land, coastal and open ocean measurements with the aim of having a coordinated global network for all satellite missions with hyperspectral sensors on board.

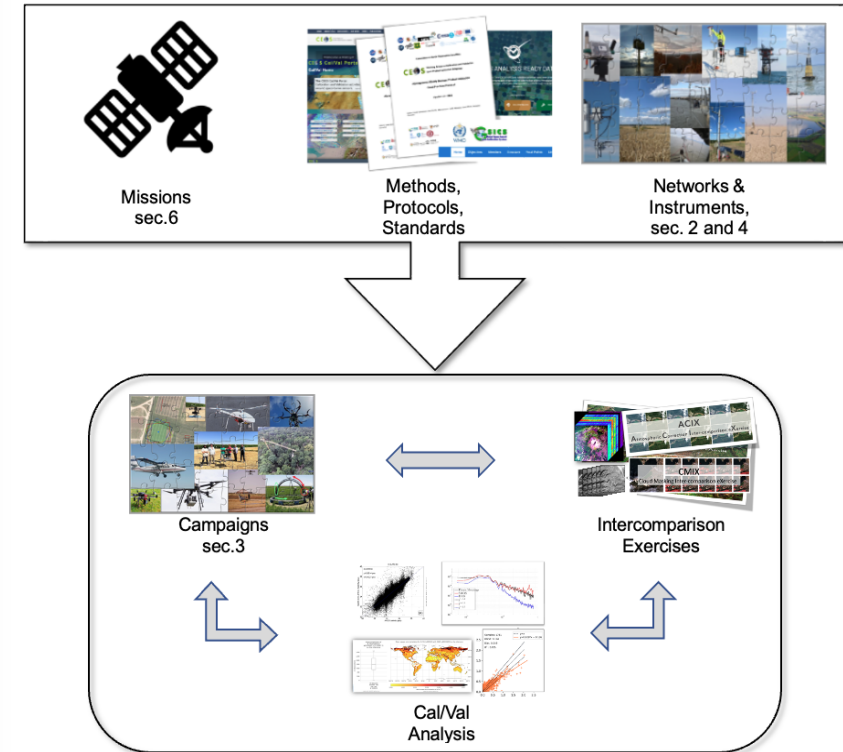
A spaceborne hyperspectral imaging sensor is an advanced spaceborne optical sensor that captures high spectral resolution images of the Earth's surface in many contiguous bands across the electromagnetic spectrum, typically between the visible to shortwave infrared ranges. The data collected by spaceborne hyperspectral imaging sensors are used in a wide range of applications, including environmental monitoring, agriculture, forestry, and non-renewable resources exploration and extraction. The list of hyperspectral missions is growing rapidly with new missions being launched by countries around the world.

In general Cal/Val activities for a Hyperspectral Mission will include the elements (Methods, Protocols and standards; Network and Instruments; Campaign; Intercomparison exercises and Cal/Val Analysis) sketched in the figure below:

Please download the Hyperspectral Cal/Val Resources document by CEOS WGCV available [here](#)

Additional material is available below

The WGCV-S2 presentation "Hyperspectral Cal/Val Resources" is available [here](#)



In general Cal/Val activities for Hyperspectral Mission will include the elements sketched in the figure above

FRMs Assessment Framework



Roadmap towards an Assessment Framework for Fiducial Reference Measurements (FRM)

<https://calvalportal.ceos.org/web/guest/frms-assessment-framework>

The purpose of the document is to propose a roadmap towards an assessment framework to endorse a specific class of measurements as a Fiducial Reference Measurement (FRM).

- [Background and Objectives](#)
- [FRM Definition and Principles](#)
- [FRM Endorsement Process](#)
- [FRM Maturity Matrix](#)
- [FRM Overall Classification](#)

CEOS Cal/Val Portal
FRMs Assessment Framework

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Roadmap towards an Assessment Framework for CEOS-Fiducial Reference Measurements (FRMs)

In recent years, the concept of a Fiducial Reference Measurement (FRM) has been developed to highlight the need for precise and well-characterised measurements tailored explicitly to the post-launch calibration and validation (Cal/Val) of Earth observation satellite missions. The confidence that stems from robust, unambiguous uncertainty assessment of space observations is fundamental to assessing the changes in the Earth system and climate model prediction and delivering the essential evidence-based input for policy makers and society striving to mitigate and adapt to climate change (see e.g. Goryl, P.; Fox, N.; Donlon, C.; Castracane, P. Fiducial Reference Measurements (FRMs): What Are They? Remote Sens. 2023, 15, 5017. <https://doi.org/10.3390/rs15205017>).

Committee on Earth Observation Satellites (CEOS) Working Group Cal/Val (WGCV) is now putting in place a framework to assess the maturity and compliance of a 'Cal/Val reference measurement' in terms of a set of community-agreed criteria which define it to be of CEOS-FRM quality. The assessment process is based on a maturity matrix that provides a visual assessment of the state of any FRM against each of a set of given criteria, making visible where it is mature and where evolution and effort are still needed. The following document provides the overarching definition of what constitutes an FRM and introduces the new CEOS-FRM assessment framework.

Please download the "FRM Assessment Framework" document by CEOS WGCV available [here](#)

Additional material is available below

The CEOS WGCV-52 presentation "FRM Assessment Framework" is available [here](#)

Nature of FRM	Self-assessment				Independent assessor
	FRM Instrumentation	Operations/ sampling	Data	Metrology	Verification
Descriptor	Instrument Documentation	Automation level	Data completeness	Uncertainty Characterisation	Guidelines adherence
Location/ availability of FRM	Evidence of traceable calibration	Measurand sampling	Availability and Usability	Traceability Documentation	Utilisation/Feedback
Range of sensors	Maintenance plan	ATBDs on processing/software	Data Format	Comparison/calibration of FRM	Metrology verification
Complementary observations	Operator expertise	Guidelines on transformation to satellite Pixel	Ancillary Data	Adequacy for intended class of sensors	Independent Verification
FRM CLASSIFICATION					A B C D (to be selected)

Grade
Not Assessed
Not Assessable
Basic
Good
Excellent
Ideal

Goryl, P.; Fox, N.; Donlon, C.; Castracane, P. Fiducial Reference Measurements (FRMs): What Are They? Remote Sens. 2023, 15, 5017. <https://doi.org/10.3390/rs15205017>.

Solar Irradiance Spectrum



CEOS Cal/Val Portal

Solar Irradiance Spectrum

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CEOS endorsed reference solar irradiance spectrum

For many Earth Observation based applications there is a need to utilise a solar irradiance spectrum. This may be as part of a bio-geophysical 'retrieval' of some form, use of a Radiative transfer code in some way or a conversion in units e.g. radiance to reflectance. In most cases for any self-contained application the most important requirement is to be consistent in the choice of any exo-atmospheric solar irradiance spectrum and to be clear, in any subsequent documentation describing any result of its use, which spectrum and version was used. In this way, it allows others, in principle to be able to convert and compare similar results which may use different solar Irradiance spectrum. However, following requests from both the user community and satellite operators and developers, CEOS in the early 2000's decided to establish a CEOS endorsed reference solar Irradiance spectrum, based on a community consensus of the 'best' observational spectrum available. At the time this was a composite spectrum, heavily based on a spectrum from the SOLSPEC mission, Thuillier et al 2003 <https://doi.org/10.1023/A:1024048429145>. In recommending a spectrum it was noted that this represents a particular 'quiet' state in the solar cycle which is dynamic and follows a nominal 11 yr periodicity. However, the variability in solar spectral irradiance at wavelengths longer than the near-UV (>~350 nm) of the spectrum, other than during a particularly major short-term event are on average relatively small < than tenths of a percent and thus not a major impact to most Earth Observation applications at this time. In 2022, following results of new satellite missions, particularly the NASA TSIS-1 mission, which provided significantly reduced uncertainty, it was decided to revise the CEOS reference solar irradiance spectrum to that of Coddington et al (2021) <https://doi.org/10.1029/2020GL091709> (please visit the dedicated [page](#)) and later to a version 2 which extends the spectral range to thermal infrared in Coddington et al (2023) <https://doi.org/10.1029/2022EA002637>

CEOS Recommendation on use of a solar Irradiance spectrum for EO applications

CEOS recommends that wherever a reference solar irradiance spectrum is used in an Earth Observation application, the choice of that spectrum and a link to an accessible, processable version of that spectrum should be included with any documentation associated with its use, ideally integrated in the metadata. The methodology used to convolve the chosen solar irradiance spectrum with that of other EO data and the associated uncertainty should also be documented and made available. For the purposes of harmonisation and interoperability, CEOS further recommends the use of its reference spectrum and where this is not done that a calculation indicating the difference of the chosen spectrum to that of the CEOS reference spectrum be made available.

Theme/Topic Areas

- Land Surface Reflectance
- Ocean Colour
- Geo-spatial image quality
- Surface Temperature
- PMOD/WRC activities
- Sensor Intercomparison
- Vicarious Calibration
- Solar Irradiance Spectrum
- IVOS Meetings
- Preflight Planning
- IVOS Sites

Document Title	Author(s)	Year	Category
INSITU-CCR White Paper	Minghua Wang, Bryan Fritz, Carol Johnson, Hiroshi Kuramata, Young Jik Park, Prakash Chauhan, Bertrand Fournie (2012)	2012	Ocean Color
An inter-comparison exercise of Sentinel-2 radiometric validations assessed by independent expert groups - Remote Sensing of Environment, 233: 111369	Lamoun, N., E. Woodams, Y. Brunaquel, et al. (2019)	2019	Radiometric Validation
Survey Protocol for Geometric SAR Sensor Analysis	Ulrich Baks, Christoph Gisinger, Michael Eineder, Helke Brest, Adrian Schubert, David Small (2018)	2018	SAR Geometric Assessment
Corner Reflector Deployment for SAR Geometric Calibration and Performance Assessment	Adrian Schubert, David Small, Christoph Gisinger, Ulrich Baks, Michael Eineder (2017)	2017	SAR Geometric Assessment
CEOS Reference Solar Irradiance Spectrum	Coddington et al (2021)	2021	Solar Irradiance Spectrum
Solar Irradiance Spectrum	Margit Habermann (PMOD/WRC) (2018)	2018	Solar Irradiance Spectrum

CEOS Cal/Val Portal

TSIS-1 HRSR

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TSIS-1 Hybrid Solar Reference Spectrum (CEOS endorsed)

The solar irradiance spectrum is used in many applications, such as constraining the solar forcing to climate models and converting measured satellite radiance to reflectance. A growing body of literature has provided evidence that the currently available solar reference spectra differ by more than their stated uncertainties. Such differences lead to biased results when different reference spectra are adopted in the aforementioned applications. This motivates the work to provide a new high-resolution solar reference spectrum at higher accuracy than any previously reported.

The Total and Spectral Solar Irradiance Sensor-1 (TSIS-1) Hybrid Solar Reference Spectrum (HRSR) has been developed by applying a modified spectral radiance normalisation to the High Spectral Irradiance Reference (HSR) solar irradiance data of the TSIS-1 Spectral Irradiance Monitor (SIM) and the CubeSat Compact SIM (CSIM). The high spectral resolution solar data are the Air Force Geophysical Laboratory ultraviolet solar irradiance reference observations, the ground-based Quality Assurance of Spectral Irradiance Measurements in Europe Fourier transform spectrometer solar irradiance observations, the Air Force Research Observatory solar irradiance data, and the semi-empirical Solar Pseudo-Transmittance Spectrum data. The TSIS-1 HRSR spans 200-2700 nm at 0.4-nm to 0.001 nm spectral resolution with uncertainties of 0.3% between 400 and 2300 nm and 1.3% at wavelengths outside that range.

The ability to produce such a data set is due to the state-of-the-art measurements of the Solar Irradiance Monitor made since March 2018 by the next-generation Spectral Irradiance Monitor (SIM) instrument on the Total and Spectral Solar Irradiance Sensor-1 (TSIS-1) satellite mission and the Compact SIM (CSIM) technology observation mission. The TSIS-1 SIM and CSIM have solar irradiance reduction in uncertainty relative to predecessor instruments primarily because of a first-of-its-kind spectral radiometric calibration facility capable of characterizing the instruments to higher fidelity.

References

Yule, The TSIS-1 Hybrid Solar Reference Spectrum

Authors: Coddington, D. P., Roberts, E. C., Tatchell, D., Pitavskii, F., Woods, T. N., Chanki, K., et al. (2021).

Geophysical Research Letters, 48, e2020GL091709. <https://doi.org/10.1029/2020GL091709>

URL: https://www.earthdata.nasa.gov/data/TSIS-1_hrsr

Software update



Liferay® Updates

Info: Liferay Community Edition Portal 7.4.3.14 CE GA14 (Cavanaugh / Build 7403 / March 4, 2022)

- Migration of all documentation.
- Migration of all accounts, passwords, access definitions for all groups.
- Security patches applied
- More and updated development features
- Improved Performances

The screenshot displays the Liferay administration interface for the CEOS Cal/Val Portal. It is divided into several sections:

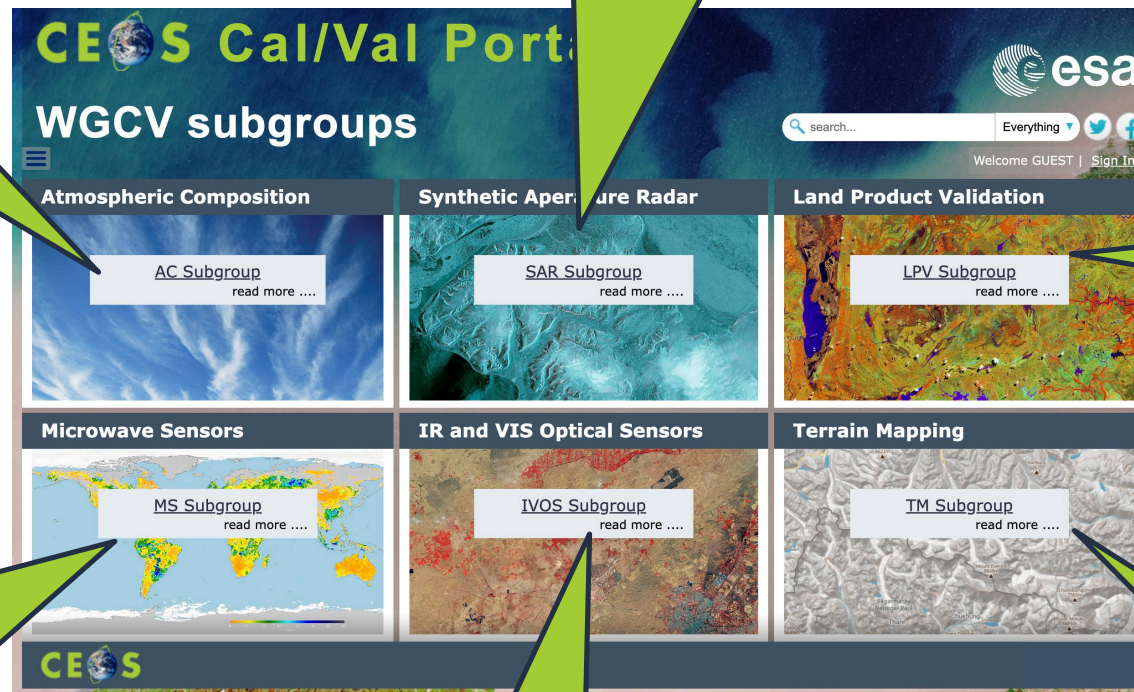
- Top Navigation:** Applications, Commerce, Control Panel.
- Content Management:**
 - CONTENT:** Asset Libraries, Content Dashboard
 - PUBLICATIONS:** Publications
 - WORKFLOW:** Process Builder, Submissions
 - COMMUNICATION:** Announcements and Alerts
 - CUSTOM APPS:** Remote Apps
- SITES Panel:**
 - CEOS Cal/Val Portal
 - CEOS Cal/Val Portal (CURRENT)
 - Global
- Left Sidebar:**
 - Home
 - Page Tree
 - Design
 - Site Builder
 - Pages
 - Navigation Menus
 - Collections
 - Content & Data
 - Categorization
 - Recycle Bin
 - People
 - Configuration
 - Publishing
- Main Configuration Area:**
 - General:** SEO, Open Graph, Custom Meta Tags
 - General Settings:** Name (Home), Hidden from search, Friendly URL (https://calvalportal/home), Create an empty page.
 - Layout:** 1 Column, 2 Columns (70/30), 3 Columns, 1-2 Columns (30/70).
- Preview:** A live preview of the CEOS Cal/Val Portal home page, featuring a search bar, news section, WGCV subgroups, and a navigation menu with links like 'References & Documents', 'Tools', 'Projects', and 'Contacts'.

Content Update



SAR Subgroup Workshop.
CEOS SAR Cal/Val 2023
Workshop Announcement and
website - New dedicated website
for SARCalNet is in development
phase.

ACSG provided input
for Cal/Val sites. Plan
for new website.

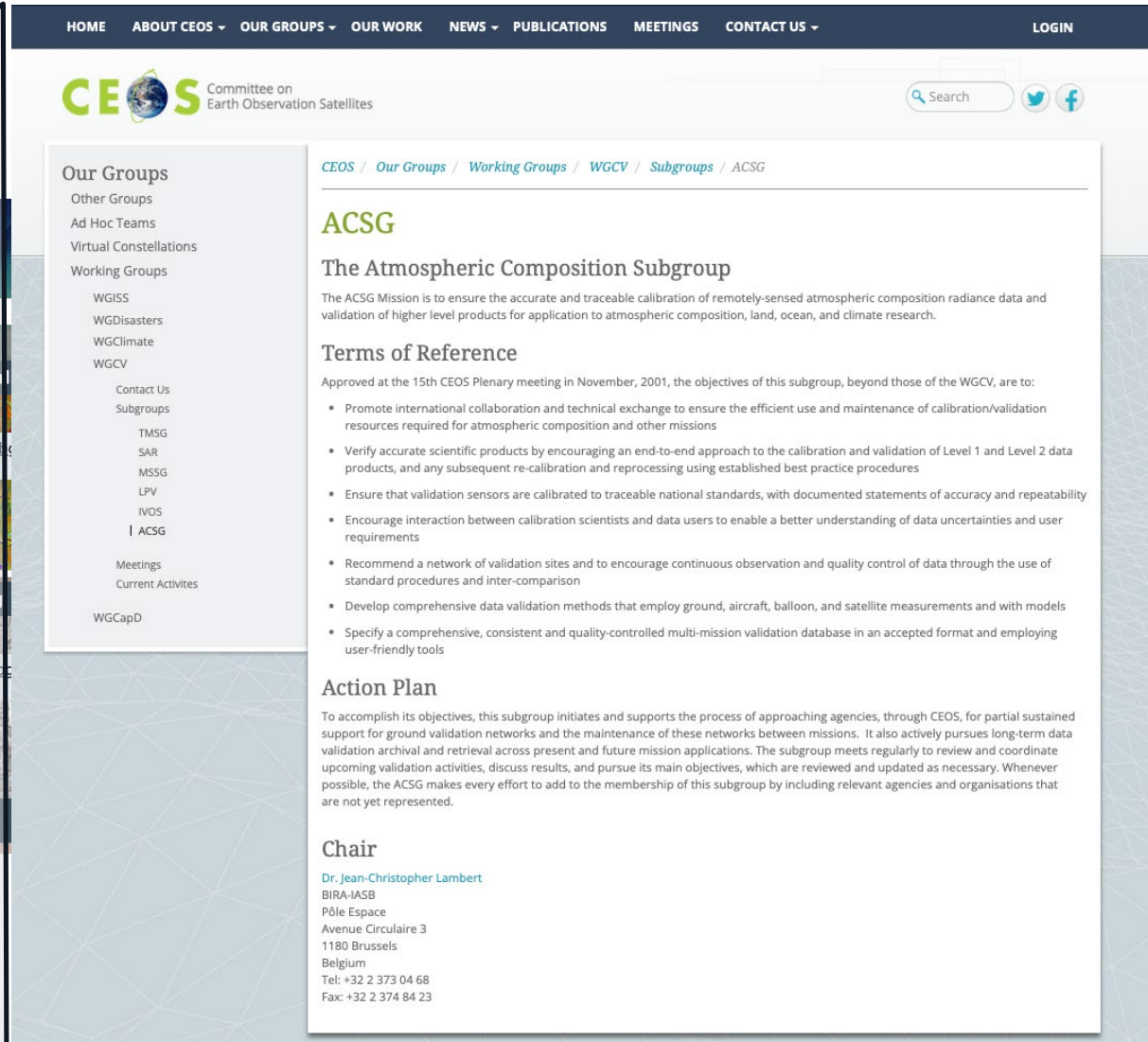
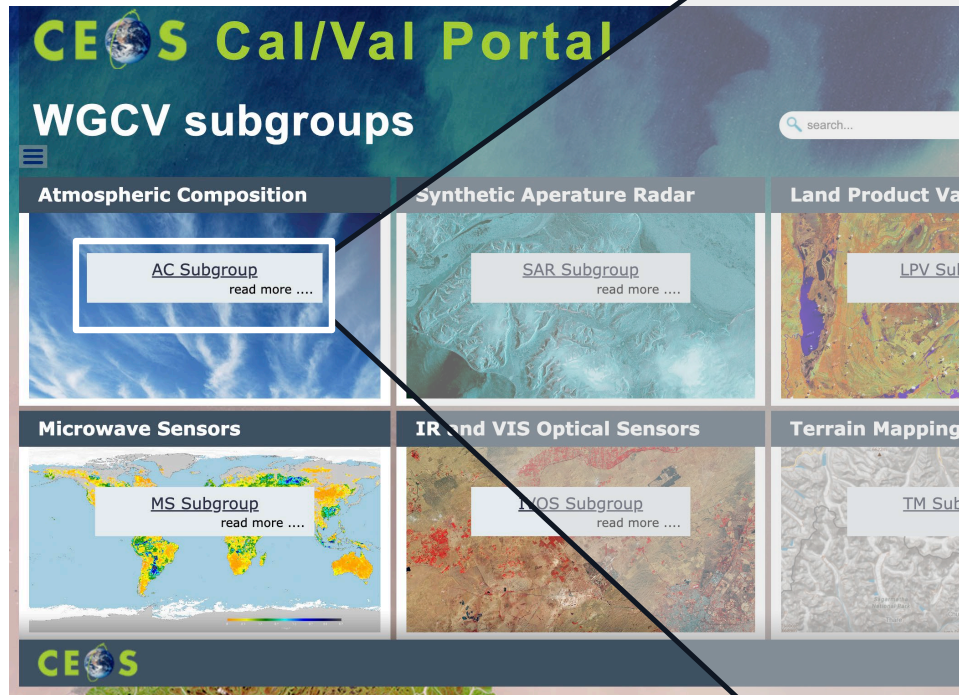


SALVAL (Surface Albedo
VALidation) tool.
LPV DIRECT 2.1
database

New MSSG website
pages – hosted in the
Cal/Val Portal: Space-
borne scatterometers
and wind retrieval, more
to come

Dedicated page for
Solar Irradiance
Spectrum. WGCV
actions, more to
come

Plan for a new
Website, including
DEMIX material



HOME ABOUT CEOS OUR GROUPS OUR WORK NEWS PUBLICATIONS MEETINGS CONTACT US LOGIN

CEOS Committee on Earth Observation Satellites

Search

CEOS / Our Groups / Working Groups / WGCV / Subgroups / ACSG

Our Groups

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ACSG

The Atmospheric Composition Subgroup

The ACSG Mission is to ensure the accurate and traceable calibration of remotely-sensed atmospheric composition radiance data and validation of higher level products for application to atmospheric composition, land, ocean, and climate research.

Terms of Reference

Approved at the 15th CEOS Plenary meeting in November, 2001, the objectives of this subgroup, beyond those of the WGCV, are to:

- Promote international collaboration and technical exchange to ensure the efficient use and maintenance of calibration/validation resources required for atmospheric composition and other missions
- Verify accurate scientific products by encouraging an end-to-end approach to the calibration and validation of Level 1 and Level 2 data products, and any subsequent re-calibration and reprocessing using established best practice procedures
- Ensure that validation sensors are calibrated to traceable national standards, with documented statements of accuracy and repeatability
- Encourage interaction between calibration scientists and data users to enable a better understanding of data uncertainties and user requirements
- Recommend a network of validation sites and to encourage continuous observation and quality control of data through the use of standard procedures and inter-comparison
- Develop comprehensive data validation methods that employ ground, aircraft, balloon, and satellite measurements and with models
- Specify a comprehensive, consistent and quality-controlled multi-mission validation database in an accepted format and employing user-friendly tools

Action Plan

To accomplish its objectives, this subgroup initiates and supports the process of approaching agencies, through CEOS, for partial sustained support for ground validation networks and the maintenance of these networks between missions. It also actively pursues long-term data validation archival and retrieval across present and future mission applications. The subgroup meets regularly to review and coordinate upcoming validation activities, discuss results, and pursue its main objectives, which are reviewed and updated as necessary. Whenever possible, the ACSG makes every effort to add to the membership of this subgroup by including relevant agencies and organisations that are not yet represented.

Chair

[Dr. Jean-Christopher Lambert](#)
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Pôle Espace
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Fax: +32 2 374 84 23

CEOS Cal/Val Portal

Cal/Val Sites

CEOS has endorsed a number of test sites that are used for calibration and validation activities (coloured). The sites have been grouped according to WGCV's subgroup's domain and divided by applications, see the tree diagram below. In addition, there are other reference sites that are also used for EO calibration or validation.

AC subgroup	IVOS subgroup			LPV subgroup	MS subgroup	SAR subgroup
AC networks	Land Sites	Other Methods	Ocean Sites	LPV Supersites	MSSG test Sites	Targets Database
ACTRIS	PICS	ROLO	MOBY	ISMN		
AERONET	RadCalNet	GIRO	BOUSSOLE	NEON		
AGAGE	Sensor Characterization	LIME	AERONET-OC	TERN		
COCCON	MTF Ref. Dataset	FRM4STS		ICOS		
CONTRAIL	USGS Catalogue			BSRN		
GAW	HYPERNETS			SURFRAD		
GRUAN				FLUXNET		
HATS				NPN		
IAGOS				PEP		
NDACC				PEN		
MPLNET				EnviroNet		
PGN				KIT		
SHADOZ				ForestGeo		
SolRad-Net				ForestPlots		
TCCON						
TOLNet						

coloured: CEOS endorsed Cal/Val sites
white: Reference Networks

NDACC Satellite Working Group

Network for the Detection of Atmospheric Composition Change

Home About Members News & Events Satellites Resources Publications

You are here: Home

HOME

The objective of the NDACC Satellite Working Group is to foster exchanges and collaboration among atmospheric scientists involved in the NDACC and in atmospheric composition satellite missions. This website is a guide to ground-based researchers, space agencies and other interested parties to practical information on satellite missions relevant to NDACC and to satellite validation resources.



Illustration: Low Earth Orbit and Geostationary (LEO+GEO) satellite constellation for air quality monitoring (image courtesy: CEOS).

CONTACTS

For further questions or suggestions, please send an e-mail to: [acc_satellites at aeronomie.be](mailto:acc_satellites@aeronomie.be)

or contact the Co-Chairs of the NDACC Satellite Working Group:

Dr. Jean-Christopher LAMBERT jean-christopher.lambert at aeronomie.be Royal Belgian Institute for Space Aeronomy (BIRA-IASB) Pôle Espace Avenue Circulaire 3 1180 Brussels Belgium	Dr. Takafumi SUGITA tsugita at nies.go.jp Global Atmospheric Chemistry Section / Earth System Division National Institute for Environmental Studies (NIES) 16-2 Onogawa, Tsukuba-city Ibaraki 305-8506 Japan
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Newsletter

- Software Platform Update
- Content Updates for each subgroups
- Hyperspectral Cal/Val resources
- FRM Assessment framework
- Outreach, video tutorials, twitter, contact and support



Overview Video



Introductory video for the CEOS Cal/Val portal. The first of a series of videos that will describe the platform's features and capabilities.

<https://ceos.org/news/cvp-video-1/>

<https://youtu.be/SpDvqV-4qhs>

➤ **thanks to Libby Rose (Symbios)!**

The list of videos will include:

- Introduction to the WGCV and the CalVal Portal
- WGCV Subgroups
- Terms and Definitions Wiki
- Registered Users
- Document repository
- CalVal Sites
- PICS sites
- Projects
- Tools
- CalVal data
- Campaigns
- Conferences and Workshops
- Keeping up-to-date with the WGCV CalVal Portal

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CEOS Committee on Earth Observation Satellites

CEOS / News / Introduction to the CEOS CalVal P...

Introduction to the CEOS CalVal Portal

Posted on May 24, 2023

The below video is the first of a series of videos that will describe the platform's features and capabilities. Follow the CalVal Portal on social media.

CEOS WGCV Cal/Val portal @CEOS_WGCV · May 25

Below is the introductory video for the CEOS Cal/Val Portal. The first of a series of videos that will describe the platform's features and capabilities

youtu.be/SpDvqV-4qhs

Introduction to the CEOS CalVal Portal

CalVal Portal

calvalportal.ceos.org @CEOS_WGCV

Introduction & Background

calvalportal.ceos.org @CEOS_WGCV

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