

**WMO OMM**

World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

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Ref.: 12284/2021-1.12 WMOH

Our ref.: 12284/2021/I/ONM/IPC-XIII

25 June 2021

Annexes: 3 (available in English only)

Subject: Thirteenth International Pyrheliometer Comparison (IPC-XIII) and the jointly held Third International Pyrgeometer Comparison (IPgC-III) and Fifth Filter Radiometer Comparison (FRC-V), Davos, Switzerland, 27 September–15 October 2021

Actions required: (1) Register for intended participation in the IPC-XIII, FRC-V and/or IPgC-III on the PMOD/WRC website, **as soon as possible**

(2) If needed, submit requests for financial support to the WMO Secretariat not later than **20 July 2021**

(3) Regional Radiation Centres to return the questionnaire ([Annex III](#)) to the WMO Secretariat not later than **20 July 2021**

Dear Sir/Madam,

The World Meteorological Organization (WMO) Executive Council at its thirty-fourth session (EC-XXXIV), through its [Resolution 13 \(EC-XXXIV\)](#) — Development and comparison of radiometers, decided that International and Regional Pyrheliometer Comparisons (IPC and RPCs) should be carried out at five-yearly intervals to check the quality of the operated radiation standards against the instruments of the World Standard Group (WSG) and, for RPC, against the regional standard instruments. The purpose of these comparisons is to foster the comparability of radiation measurements throughout the world through traceability to the World Radiometric Reference.

As mentioned in my letter of 16 July 2020 (ref. 13991/2020/I/ONM/MQC/IPC-XIII-Postponement), the comparisons planned for 2020 had to be exceptionally postponed to 2021 due to the COVID-19 pandemic.

It is my pleasure to inform you now that, at the kind invitation of Switzerland, the Thirteenth International Pyrheliometer Comparison (IPC-XIII) will be held at the World Radiation Centre (WRC) in Davos, Switzerland, from 27 September to 15 October 2021. The WRC has also indicated that the Fifth Filter Radiometer Intercomparison (FRC-V), and Third International Pyrgeometer Comparisons (IPgC-III) will be held in conjunction with IPC-XIII.

IPC-XIII is primarily intended for the calibration of standard pyrheliometers of all WMO Regional Radiation Centres (RRCs). National Standard Pyrheliometers that are maintained at National Radiation Centres (NRC), will also be compared against the WSG if the total number of instruments does not exceed the capacity of the Davos Centre.

To: Permanent Representatives of Members with WMO

cc: Hydrological Advisers

WRC plans to organize a scientific symposium on meteorological radiometry and atmospheric radiation. RRCs will be expected to present a report on their activities in the last five years during the symposium.

The financial resources available to support participants are very limited. Taking this into account, I would like to urge you to consider meeting the travel and per diem expenses of the participant(s) from your Service.

Nevertheless, requests for financial assistance will be considered within limited resources available for the IPC. It is our target to support the participation of some Regional Radiation Centres (RRCs) from developing countries, and, if possible, also some National Radiation Centres from developing countries. With the kind help of the WRC Davos, special arrangements are being planned to minimize the local cost for accommodation and half/full board of participants.

Financial assistance for the transport of instruments cannot be provided by WMO.

Please find attached the following annexes:

- List of WMO Regional Radiation Centres ([Annex I](#))
- Questionnaire – Request for financial support for participation at IPC-XIII/RPCs ([Annex II](#))
- Questionnaire for Regional Radiation Centres planning to attend IPC-XIII ([Annex III](#))

If you wish to nominate a radiation expert and bring one or more instruments to the IPC-XIII, FRC-V, and/or IPgC-III, you are kindly requested to fill in the on-line forms provided on the [WRC website](#). Confirmation of participation will be provided to you directly by the WRC.

Requests for financial assistance must be **submitted to the WMO Secretariat by the relevant Permanent Representative of the nominated expert by 20 July 2021 at the latest**, by returning the completed form provided in [Annex II](#).

Members hosting a Regional Radiation Centre (RRC) are requested to complete and return the questionnaire on RRC, provided in [Annex III](#), at your earliest convenience but **not later than 20 July 2021** to provide information on the traceability of RRCs and their adherence to the RRC Terms of Reference.

Detailed information on the organization of the IPC-XIII, FRV-C, and IPgC-III and conditions for participation will be sent by the Director of the World Radiation Centre to the nominated expert(s) directly. Additional information on local arrangements will be made available on the [WRC website](#).

Yours faithfully,



Dr Wenjian Zhang
for the Secretary-General

LIST OF WMO REGIONAL RADIATION CENTRES¹

Ref.: 12284/2021-112 WMO

Region I (Africa)

Tamanrasset, Algeria
 Cairo, Egypt
 Lagos, Nigeria
 Khartoum, Sudan
 Tunis, Tunisia
 Kinshasa, Dem. Republic of the Congo

Region II (Asia)

Pune, India
 Tokyo, Japan

Region III (South America)

Buenos Aires, Argentina
 Santiago, Chile
 Huayao, Peru

Region IV (North and Central America)

Toronto, Canada
 Mexico City, Mexico
 Boulder, USA

Region V (South-West Pacific)

Melbourne, Australia

Region VI (Europe)

Uccle, Belgium
 Toulouse/Carpentras, France
 Lindenberg, Germany
 Budapest,, Hungary
 St. Petersburg, Russian Federation
 Norrköping, Sweden
 Davos, Switzerland

¹ See [Guide to Instruments and Methods of Observation](#) (WMO-No. 8)

QUESTIONNAIRE² — Request for financial support
for participation at the
International and Regional Pyrheliometer Comparisons (IPC-XIII, RPCs)
World Radiation Centre (WRC), Davos, Switzerland
27 September to 15 October 2021

Ref.: 12284/2021-1.12 UNOH

1.	Member country	
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2.	Radiation Centre	
	Regional <input type="checkbox"/>	National <input type="checkbox"/>
	Address	
	Telephone	
	Telefax	
	E-mail	

3.	Regional Radiation Centres (RRC)	
Instruments composing the regional standard	(a)	
	(b)	
	(c)	
	(d)	
	(e)	
Main activities	2016	
	2017	
	2018	
	2019	
	2020	
Number of instruments calibrated by the RRC for other countries in the last 5 year:		
List countries for which these services were provided:		

4.	National Radiation Centres	
Type/Model of instruments calibrated with natl. ref. instrument	Type/Model of national reference instrument	
	Number of instruments calibrated with the national reference instrument:	
	(a)	
	(b)	
	(c)	
	(d)	

² The electronic version of the questionnaire is available [here](#).

5.	Expert³ proposed for participation	
	Family name	Dr / Mr / Ms
	First name	
	Address	
	Telephone	
	Telefax	
	E-mail	
	Position presently held	

6.	Information on standard pyr heliometers foreseen for participation in the IPC/RPC	
	1st priority	Type/Model
		Manufacturer
		Serial Number
	2nd priority	Type/Model
		Manufacturer
Serial Number		

7.	Assistance is requested for	Per diem <input type="checkbox"/>	Travel <input type="checkbox"/>
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8.	<i>Submitted by</i>	
	Family name	
	First name	
	E-mail	
	Date	

9.	Permanent Representative ⁴	
	Name	
	Date	<div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <p style="text-align: center;">Signature of the Permanent Representative</p>

Please return the electronic version of the completed questionnaire by **20 July 2021** via e-mail to: iruedi@wmo.int, wmo@wmo.int

Dr Isabelle Ruedi
 World Meteorological Organization
 Infrastructure Department
 P.O. Box 2300
 CH-1211 Geneva 2, Switzerland
 Tel: (+41 22) 730 8278 / Fax: (+41 22) 730 8181

³ Designated experts may also consult the [WRC website](#) for more information

⁴ Signature is needed **only** if financial assistance is requested.

QUESTIONNAIRE⁵ FOR REGIONAL RADIATION CENTRES

planning to attend the International Pyrheliometer Comparisons (IPC-XIII)

World Radiation Centre (WRC), Davos, Switzerland

27 September to 15 October 2021

Ref.: 12296/2021-1.1/ONM

Regional Radiation Centre	
Respondent's name	
Respondent's contact details	

1)	How many pyrheliometers do you have in your standard group? <i>Please provide in the table below the type and serial number (s/n)</i> total:
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2)	Do you know the uncertainty of each of these instruments? YES <input type="checkbox"/> NO <input type="checkbox"/> If yes, how was the uncertainty obtained for each of the instruments? <i>Please answer this question in the table below.</i>
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Pyrheliometers			
	type and s/n	uncertainty known	uncertainty obtained by
a.	type s/n	yes <input type="checkbox"/> no <input type="checkbox"/>	
b.	type s/n	yes <input type="checkbox"/> no <input type="checkbox"/>	
c.	type s/n	yes <input type="checkbox"/> no <input type="checkbox"/>	
d.	type s/n	yes <input type="checkbox"/> no <input type="checkbox"/>	
e.	type s/n	yes <input type="checkbox"/> no <input type="checkbox"/>	

3)	What type of data acquisition system do you use for the standard group?
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4)	How frequently do you calibrate your data acquisition system for the standard group? a) When was it last calibrated? Date:
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5)	How many people are involved in maintaining and using the standard group? a) What are the qualifications of these people? b) What metrology training have these people received?
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⁵ The electronic version of the questionnaire is available [here](#).

6)	<p>Does your RRC have a quality management system (e.g. ISO 17025, ISO 9001, or internal procedures)?</p> <p style="text-align: center;">YES: <input type="checkbox"/> NO: <input type="checkbox"/></p> <p>a) If yes, briefly describe your quality management system.</p>
7)	<p>Is the RRC audited in any way (internally or externally)?</p> <p style="text-align: center;">YES: <input type="checkbox"/> NO: <input type="checkbox"/></p> <p>a) If yes: When was it last audited? Date:</p>
8)	<p>How frequently do you intercompare the radiometers of your standard group?</p> <p>a) What are the results of the latest intercomparison?</p> <p>b) Did any of the standard radiometers change with respect to the group and by how much?</p>
9)	<p>How do you maintain the traceability of your standard group to the WRR?</p> <p>a) How many of your standard group instruments have participated in an IPC/RPC?</p>
10)	<p>What would you find most useful in a training course on radiation measurement?</p>

Please return the electronic version of the completed questionnaire by **20 July 2021**
via e-mail to: iruedi@wmo.int, wmo@wmo.int

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