



World Meteorological Organization
Organisation météorologique mondiale

Secrétariat
7 bis, avenue de la Paix – Case postale 2300 – CH 1211 Genève 2 – Suisse
Tél.: +41 (0) 22 730 81 11 – Fax: +41 (0) 22 730 81 81
wmo@wmo.int – www.wmo.int

Weather • Climate • Water
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Our ref.: OBS/OSD/IMO/IPC-XII

GENEVA, 8 April 2015

Annexes: 3 (available in English only)

Subject: Twelfth International Pyrheliometer Comparison (IPC-XII) and the conjointly planned Regional Pyrheliometer Comparisons (RPCs) at the World Radiation Centre, Davos, Switzerland, 28 September to 16 October 2015

Action required: 1. Register for intended participation in the IPC-XII/RPCs on the PMOD/WRC website, **as soon as possible**
2. If needed, submit requests for financial support to the WMO Secretariat not later than **30 April 2015**

Dear Sir/Madam,

According to Resolution 13 (EC-XXXIV) of the Executive Council, 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.

I have pleasure in informing you that, at the kind invitation of Switzerland, the Twelfth International Pyrheliometer Comparison (IPC-XII) will be held at the World Radiation Centre (WRC) in Davos, Switzerland, from 28 September to 16 October 2015. The WRC has also indicated that the Fourth Filter Radiometer Intercomparison (FRC-IV), and Second International Pyrgeometer Comparisons (IPgC-II) will be held in conjunction with IPC-XII.

The IPC-XII 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 (or Directors of Meteorological or Hydrometeorological Services) of Members of WMO (PR-6839)

cc: WRC Davos)
RRCs) (for information)

The WRC plans to organize a scientific symposium on meteorological radiometry and atmospheric radiation as well as a training course on radiation measurements focusing specially on the needs of RRCs. RRCs will be expected to present a report on their activities in the last 5 years during the symposium and to attend the training course. It is planned to award a certificate of attendance to the participants in the training course. Space permitting, NRCs will also be welcomed to attend the course.

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.

Enclosed you will find three annexes as follows:

- Annex I List of WMO Regional Radiation Centres;
- Annex II Questionnaire – Request for financial support for participation at IPC-XII/RPCs;
- Annex III Questionnaire for Regional Radiation Centres planning to attend IPC-XII.

If you wish to nominate a radiation expert and bring one or more pyrhelimeter instruments to the IPC-XII/RPCs, you are kindly requested to fill-in the on-line forms provided on the WRC website: <http://projects.pmodwrc.ch/ipc-xii> . 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 30 April 2015 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 30 April 2015** 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-XII/RPCs and conditions for technical specifications of the standard pyrhelimeters proposed 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 under: <http://projects.pmodwrc.ch/ipc-xii>.

Yours faithfully,



(J. Lengoasa)
for the Secretary-General

WORLD METEOROLOGICAL ORGANIZATION



OBS/OSD/IMO/IPC-XII/ANNEX I

LIST OF WMO REGIONAL RADIATION CENTRES¹

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)
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Region VI (Europe)

Uccle	(Belgium)
Toulouse/Carpentras	(France)
Potsdam	(Germany)
Budapest	(Hungary)
St. Petersburg	(Russian Federation)
Norrkoeping	(Sweden)
Davos	(Switzerland)

¹ See *Guide to Meteorological Instruments and Methods of Observation* (WMO-No. 8)

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OBS/OSD/IMO/IPC-XII, ANNEX II

QUESTIONNAIRE¹ - Request for financial support
 for participation at the
International and Regional Pyrheliometer Comparisons (IPC-XII, RPCs)
 World Radiation Centre (WRC),
 Davos, Switzerland, 28 September to 16 October 2015

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	2011	
		2012	
		2013	
		2014	
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 national reference instrument		
	Number of instruments calibrated with the national reference instrument:		
	Type/Model of instruments calibrated with natl. ref. instrument	(a)	
		(b)	
(c)			
(d)			

¹ The electronic version of the Questionnaire is available on CIMO/IMOP website:
<http://www.wmo.int/pages/prog/www/IMOP/intercomparisons.html>

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

6.	Information on standard pyrheliometers foreseen for participation in the IPC/RPC	
	1 st priority	Type/Model
		Manufacturer
		Serial Number
	2 nd 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.	Submitted by	
	Family name	
	First name	
	E-mail	
	Date	

9.	Permanent Representative⁴	
	Name	
Date	<hr/> Signature of the Permanent Representative	

Please return the electronic version of the completed Questionnaire
by **30 April 2015**

via e-mail to: iruedi@wmo.int

Dr Isabelle Rüedi
World Meteorological Organization
OBS Department
P.O. Box 2300
CH-1211 Geneva 2
Switzerland
Tel: (+41 22) 730 8278
Fax: (+41 22) 730 8021

³ Designated experts may also consult the WRC website for more information: <http://www.pmodwrc.ch/>

⁴ Signature is needed only if financial assistance is requested, in which case the signed Questionnaire should be also faxed to WMO, fax number: +41 22 730 8021

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OBS/OSD/IMO/IPC-XII, ANNEX III

QUESTIONNAIRE¹
for REGIONAL RADIATION CENTRES
 planning to attend the International Pyrheliometer Comparisons (IPC-XII)
 World Radiation Centre (WRC)
 Davos, Switzerland, 28 September to 16 October 2015

Regional Radiation Centre	
Respondant's name	
Respondant'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 to this question in the table below.</i>

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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¹ The electronic version of the Questionnaire is available on CIMO/IMOP website:
<http://www.wmo.int/pages/prog/www/IMOP/intercomparisons.html>

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

Please return the electronic version of the completed Questionnaire

by **30 April 2015**

via e-mail to: iruedi@wmo.int

Dr Isabelle Rüedi

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OBS Department

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