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| WEATHER CLIMATE WATER | **World Meteorological Organization**  **COMMISSION FOR OBSERVATION, INFRASTRUCTURE AND INFORMATION SYSTEMS**  **Third Session** 15 to 19 April 2024, Geneva | **INFCOM-3/Doc. 8.2(5)** |
| Submitted by: Chair of SC-MINT  23.II.2024  **DRAFT 1** |

**AGENDA ITEM 8: TECHNICAL DECISIONS**

**AGENDA ITEM 8.2: WMO Integrated Global Observing System – measurements**

# GUIdeLINES FOR RADIometer COMPARISONS

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| **Summary** |
| **Document presented by:** Chair of the Standing Committee on Measurements, Instrumentation and Traceability (SC-MINT)  **Strategic objective 2024–2027:** 2.1: “Optimize the acquisition of Earth system observation data through the WMO Integrated Global Observing System (WIGOS)”  **Financial and administrative implications:** Strategic and Operating Plans 2024–2027  **Key implementers:** INFCOM, Members and Secretariat  **Time frame:** 2024-2027  **Action expected:** Review and approve the proposed draft decision |

# GENERAL CONSIDERATIONS

### Introduction

1. The calibration and traceability of instruments to recognized standards is crucial for provision of quality measurements and observations needed for several applications.
2. WMO defined the radiometric references to which Members’ instrument are traceable.
3. Regular radiometer comparisons are organized to ensure the stability of those references and to disseminate them worldwide to regional and national reference instruments. It is crucial that such comparisons follow best practices to achieve expected results.
4. WMO has designated a World Radiation Centre and several Regional Radiation Centres, which will have to consider the proposed guidelines when planning/conducting future radiometer comparisons.

**Expected action**

Based on the above, INFCOM is invited to adopt the proposed decision.

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# DRAFT DECISION

## Draft Decision 8.2(5)/1 (INFCOM-3)

**Guidelines for Radiometer Comparisons**

**The Commission for Observation, Infrastructure and Information Systems:**

**Recalling:**

(1)[Resolution 13 (EC-XXXIV)](https://library.wmo.int/viewer/29124/?offset=#page=136&viewer=picture&o=bookmarks&n=0&q=) - Development and comparison of radiometers,

(2) [Resolution 32 (EC-76)](https://library.wmo.int/viewer/66258/?offset=#page=1137&viewer=picture&o=bookmark&n=0&q=) - Towards a change of radiation references,

**Having been informed** of the work of the Standing Committee on Measurements, Instrumentation and Traceability (SC-MINT) Expert Team on Radiation References to foster comparability and transparency of the procedure followed during radiometer comparisons that have been included in the update of the [*Guide to Instruments and Methods of Observation*](https://library.wmo.int/records/item/68695-guide-to-instruments-and-methods-of-observation?offset=9) (WMO-No. 8),

**Reaffirming** the importance of accurate and stable references for solar and terrestrial irradiance measurements and WMO’s role in the maintenance and dissemination of the current World Radiometric Reference,

**Recognizing** the importance to have long-term access to the data from radiometer comparisons that are used to ensure the stability of the references,

**Recommends** the Executive Council to requestradiation centres, especially the World Radiation Centre and Regional Radiation Centres, to follow these guidelines when organizing radiometer comparisons;

**Requests** SC-MINT to promote the guidelines to radiation centres and instrument developers, and to advise radiation centres on their implementation in upcoming radiometer comparisons.

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Decision justification: The inclusion of the Guidelines for Radiometer Comparisons in Volume I, Chapter 7 to the [*Guide to Instruments and Methods of Observation*](https://library.wmo.int/records/item/68695-guide-to-instruments-and-methods-of-observation?offset=9) (WMO-No. 8) was addressed through draft [Resolution 8.2(1)/1 (INFCOM‑3](https://meetings.wmo.int/INFCOM-3/English/Forms/AllItems.aspx?RootFolder=%2FINFCOM%2D3%2FEnglish%2F1%2E%20DRAFTS%20FOR%20DISCUSSION&FolderCTID=0x0120004D58D6EBC5C7054898FF36E91D58C193&View=%7B84F6CC21%2D2DD6%2D403B%2DB16A%2D97A4B833DE2B%7D)). The current decision requests regional radiation centres to follow them.

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