

Consultative Committee for Photometry and Radiometry (CCPR)
25th Meeting (on-line 10-11 May 2022)

**CCPR member report on activities in radiometry and photometry since the last
CCPR meeting (2019)**

Reply from: INMETRO - Brazil

Delegate: Thiago Menegotto - BR

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1. Summarize the recent progress in your laboratory with respect to measurement standards, research projects, and metrology services to fulfill the demands of customers in:
 - (a) broad-band radiometric quantities:
 - (b) spectral radiometric quantities:
Calibration of spectral irradiance lamps from 250 nm to 1100 nm will be available for costumers from July 2022;
Differential Spectral Responsivity setup is under development to provide traceability for photovoltaic cells;
The setup for calibration of photodiodes in the UV, VIS and NIR was upgraded with significant improvement in the automation of the measurements;
A new primary standard for radiometric measurements (electric substitution radiometer) is being installed.
 - (c) photometric quantities:
 - (d) other area(s) relevant to CCPR:
 2. What work in PR has been/will be terminated in your laboratory, if any, in the past /future few years? Please explain the reasons and provide the name of the institution if it has been/will be substituted by a DI or accredited laboratory.
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 3. Summarize the Capacity Building and Knowledge Transfer activities undertaken by your institute in photometry and radiometry (courses, training, ...):

 4. Summarize the research projects currently performed within a collaboration with one or more NMIs or Dis (name of the project, participants):
INMETRO is participating in the project “Strengthening Quality Infrastructure for Renewable Energies and Energy Efficiency” of PTB/BMZ – in the field of PR, this project is leading to the development of a calibration service for photovoltaic cells;

INMETRO is participant of the project *Evaluation of UVC Technologies for UV Radiation Disinfection*, supported by NIST. Other participants: NRC, CENAM, LATU.

5. Are there any other research projects where you might be looking for collaborators from other NMIs or are there studies that might be suitable for collaboration or coordination between NMIs?

6. Have you got any other information to place before the CCPR in advance of its next meeting?

7. Bibliography of radiometry and photometry papers of your laboratory since the last CCPR (September 2019):

T. Ferreira da Silva, J. P. Barbaro, A. Zinzallari, V. Jesiotr, "Intercomparison of indoor and outdoor spectral irradiance measurements between INTI and INMETRO." *Applied Optics* Vol. 60, pp. 5177-5185 (2021);

T. Ferreira da Silva, "Photon-counting-based optical frequency metrology," *Applied Optics* Vol. 59, Issue 36, pp. 11232-11239 (2020);