

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: Standards and Calibration Laboratory (SCL)

Delegate: Ms. Brenda Lam

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:
 - Irradiance in UV region (under development)
 - (b) spectral radiometric quantities:
 - Spectral power responsivity from 200 nm to 1800 nm
 - Spectral irradiance from 250 nm to 1800 nm
 - Spectral radiance from 300 nm to 1800 nm
 - Spectral radiant flux from 365 nm to 850 nm
 - Optical power, calibration factor, at wavelength of 1310 nm and 1550 nm
 - (c) photometric quantities:
 - Luminous Flux from 20 lm to 10000 lm
 - Luminous intensity at colour temperature of 2856 K from 35 cd to 3500 cd
 - Illuminance at colour temperature of 2856 K from 1 lx to 3000 lx
 - Luminance at colour temperature of 2856 K from 10 cd/m² to 4000 cd/m²
 - (d) other area(s) relevant to CCPR:
 - Correlated colour temperature from 2700 K to 3200 K

Besides, SCL is now setting up the cryogenic radiometer.

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.

Reply: Nil

3. Summarize the Capacity Building and Knowledge Transfer activities undertaken by your institute in photometry and radiometry (courses, training, ...):

Reply:

SCL disseminates metrology knowledges through our website and organizing metrology workshops, seminars and symposiums every year.

4. Summarize the research projects currently performed within a collaboration with one or more NMIs or Dis (name of the project, participants):

Reply: Nil

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?

Reply: A new optical fibre power measurement system with wavelength covering from 1300 nm to 1640nm, or wider.

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

Reply: Nil

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

Reply:

1. S. L. Yang, H. S. Lam and Y. C. Chau, "Study of the Size-of-Source effect (SSE) on the Calibration of Spectral Radiance Standards," *CIE 2019*, Washington DC, USA, June 2019.
2. C. M. Tsui, Brenda H. S. Lam, Brian H. T. Lee, "Interpolation of Spectral Responsivity of Trap Detectors and Evaluation of Measurement Uncertainties Using Monte Carlo Method," *NEWRAD 2021*, June 2021.
3. Brian H. T. Lee, Brenda H. S. Lam and C. M. Tsui, "Thin Film Reflectance Model for Trap Detector," *NCSLI 2021 Conf.*, August 2021.
4. Brian H. T. Lee, Y. C. Chau and Brenda H. S. Lam, "Calibration of Spectral Irradiance Sources using a Fiber-Coupled System," *CIE 2021 Midterm Meeting and Conference.*, September 2021.