

## Questionnaire on activities in radiometry and photometry

Reply from: NMC-ASTAR, Singapore

Delegate: Dr Zhang Jing

1. Summarize the progress in your laboratory in realizing top-level standards of:

(a) broad-band radiometric quantities

None

(b) spectral radiometric quantities

- Extension of cryogenic radiometer operating wavelength range by using in-house developed broadband quadrant detector (on-going)
- Wavelength range 400 – 1600 nm
- InGaAs trap detector calibrated at 1310 nm by using the above quadrant detector

(c) photometric quantities

None

2. What other work has taken place in your laboratory in scientific or technological areas relevant to the CCPR?

Development

NMC is developing a broadband photodetector for extension of cryogenic radiometer operating wavelength range toward infrared

Comparison (completed)

Fiber optic power responsivity APMP.PR-S2

Comparison (ongoing)

APMP.PR-S8

CCPR.K2b

Comparison (in preparation)

CCPR-K1a. Second round

3. What work in PR has been/will be terminated in your laboratory, if any, in the past /future few years? Please provide the name of the institution if it has been/will be substituted by a DI or accredited laboratory.

Consultative Committee for Photometry and Radiometry (CCPR)  
23<sup>rd</sup> Meeting (22 - 23 September 2016)

None.

4. What are present, new or emerging needs of users of your services that are not being supported sufficiently by current CCPR activities or initiatives? In the light of this information please suggest desirable changes in the future working program of the CCPR.

- Optical phantom as optical property standards
- Lidar verification

5. What priorities do you suggest for new research and development programmes at NMIs in the area of Photometry and Radiometry?

6. Are there any 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?

- We are looking for collaborators to explore the application of broadband photodetector for extension of cryogenic radiometer operating wavelength range to improve the measurement capability in infrared.

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

No

8. Bibliography of radiometry and photometry papers of your laboratory since the last CCPR (September 2014)?

- Comparison of two methods for short circuit current measurement of large size solar cell, Xuebo HUANG, Chenggen QUAN, Jerald KNG, IcOPEN 2015, Singapore (Proc. Of IcOPEN 2015 Conference)
- Modes Effective Refractive Index Difference Measurement in Few-mode Optical Fiber, Jing Zhang, Zhifang Wu, Tianye Huang, Xuguang Shao, and Ping Shum, ICMAT 2015.
- Few-Mode Fiber Based Sensor in Biomedical Application, Jing Zhang, SPIE DSS 2015.
- Optical Fiber Spectral Attenuation Measurement by Using Tunable Laser Sources to Improve Accuracy and Uncertainty, Seah Chee Hwee, Zhang Jing, Xiang Ning, ICOPEN 2015.
-