Report of NRC activities 2023-2025

Ac-dc Difference

NRC drove the discussions for the support group of CCEM-K12.2025 ac-dc current difference. NRC participated in this comparison in early 2025.

Ac Voltage

A stability study of the NRC ac voltage source was performed in collaboration with NIST Boulder. Results were reported at CPEM 2024 and are now accessible via the online digest.

Low Currents

A system to calibrate low currents was developed to support other teams at NRC. Traceability measurements and proficiency tests are required before opening the service.

Impedance

Improvements to the digital impedance bridge have been made. This bridge is used to support odd value capacitors, inductances, and phase angles of ac resistors.

Resistance

We finished the closing measurements for the comparison entitled “Subsequent bilateral key comparison of CCEM-K2.2012.1: Comparison of Resistance Standards at 10 Mohm and 1 Gohm” between NRC, NIST, and KRISS.

Microwaves and Radiofrequencies

We no longer have CMCs in this area, except for RF-dc transfer difference.

Ac Power

We participated in the CCEM international key comparison K-13 in ac power harmonics. We (still) expect to participate in a bilateral comparison with the power lab of CENAM, Mexico.

High Voltage and Current

We participated in the EURAMET.EM-S36 comparison in calibration of high voltage partial discharge measurement system.