

8th EURAMET Electricity and Magnetism Contact Persons Meeting organized by SIQ/Ljubljana, 16./17. October 2014

Highlights from BEV / Austria

Ø Replacement of two shielded laboratory rooms

The shielded laboratory rooms for QHE and DC resistance in our new laboratory building (finished in 2011) didn't fulfil the demanded screening requirements. Several improvements were made on the existing shielded rooms in 2011 and 2012, but it was not possible to fulfil all requirements. Therefore the final decision was to replace both shielded rooms completely.

- After acceptance measurements in February 2013 of the new QHE system it was dismantled and carefully stored.
- The resistance laboratory was completely moved to another laboratory for several month.
- September 2013: Begin of replacement of the two shielded rooms.
- December 2013: Acceptance tests of the shielding effectiveness: all requirements are fulfilled.

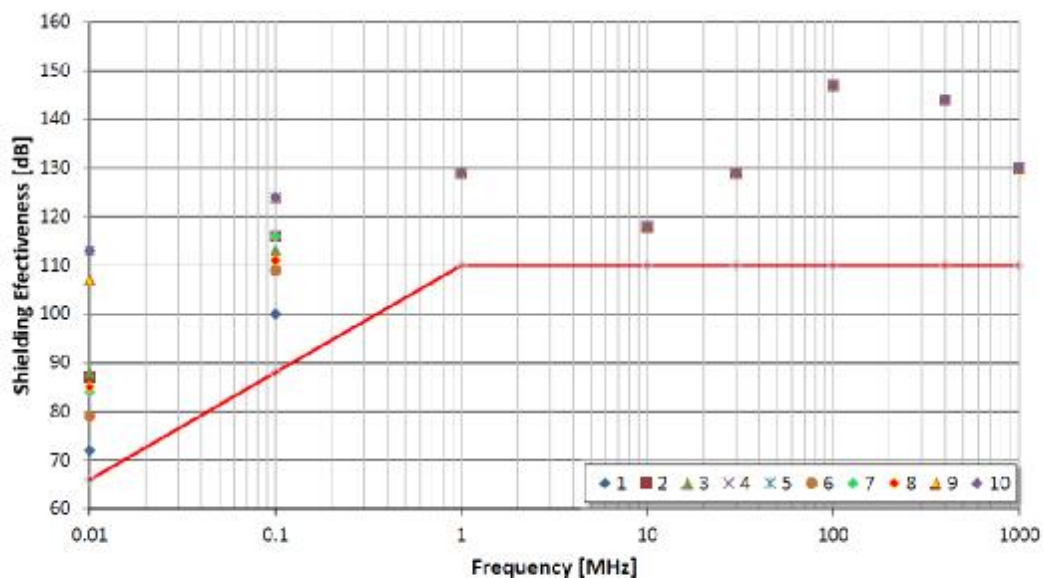


Figure 4: SE results for Room 2 (QHE Labor) and Room 3 (DC Labor)

- January/February 2014: Take-over by BEV.
- March 2014: The resistance laboratory was moved back to the new shielded laboratory.
- Starting in October 2014: Operation of the QHE system in the second shielded laboratory.

Ø Resistance laboratory: future development

- QHE system (including resistance measurement bridge) establishes additional measurement capabilities in the range of 1 Ω to 10 (100) k Ω .
- This allow separation of measurement capabilities for measurements of internal standards and calibration of customer standards with lower additional effort.
- For this purpose new resistance standards in the range of 1 Ω to 10 k Ω were purchased. Since July 2014 the characterization of these standards is running. It is planned to use them as working standards for calibrations with lower additional effort starting in the middle of 2015.

Ø EURAMET.EM-K12: EURAMET International Key Comparison of AC-DC Current Transfer Standards

Currents: 10 mA and 5 A

Frequencies: 10 Hz, 55 Hz, 1 kHz, 10 kHz, 20 kHz, 50 kHz, 100 kHz

The circulation of the standards started in June 2012 and is planned to end in 2014. The detailed time schedule for the comparison is given in the table below.

Updated timetable: SP has postponed their participation from May 2013 to March 2014; the metrology institute NIS from Egypt took part in June 2014, four participants repeat their measurements from September to December 2014.

EURAMET EM-K12 ac-dc current transfer difference

schedule 26. June 2014

