

NATIONAL METROLOGY INSTITUTE OF SOUTH AFRICA (NMISA)

Progress Report on Activities in Electricity and Magnetism

Prepared for the 31st meeting of the CCEM, 25-29 March 2019

DCLF Laboratory

AC-DC Transfer Difference

The ac-dc difference laboratory is working on a project of design and manufacturing of a low-frequency rms-dc thermal converter with calculable parameters. The design of the converter is in the form of a planar micro-structure which includes thermo-resistive sensor and provisions for the input impedance calculation based on the conductor geometry and material properties.

The laboratory is participating in the GULFMET.EM-S3 comparison (Comparison of AC-DC Voltage Standards)

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AC Power

The laboratory is in the process of validating its newly established voltage harmonics measurement system.

The laboratory is finalising the development and implementation of the digital simultaneous sampling technique (DSST) for its power measurement system.

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RF Laboratory

With the help of NPL technical experts, the laboratory commissioned a 7 mm Coaxial Dual Line Calorimeter as a primary standard for RF power in March 2018.

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