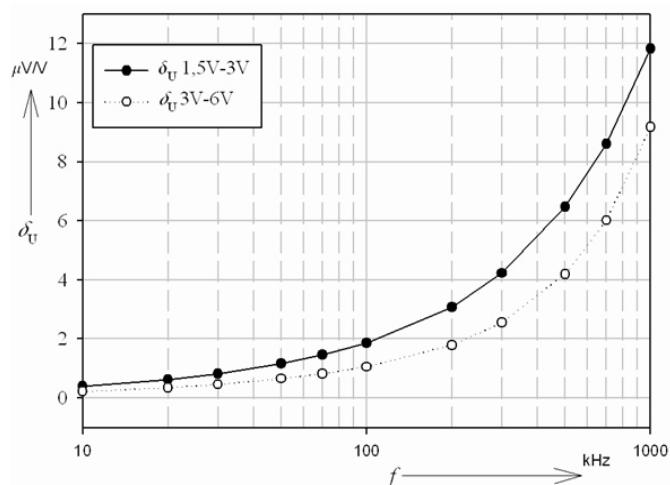


## 03CM106 Thermal AC voltage standards with calculable AC-DC transfer difference in frequency range from 10 kHz to 1 MHz

Marian Kampik<sup>24</sup>, Michal Grzenik<sup>24</sup>

The paper presents design and basic metrological properties of three thermal AC voltage standards with nominal input voltages 1.5 V, 3 V and 6 V. Each standard is composed of a range resistor connected in series with a single junction thermal converter (SJTC). The AC-DC transfer differences of these standards are calculated in frequency range from 10 kHz to 1 MHz.

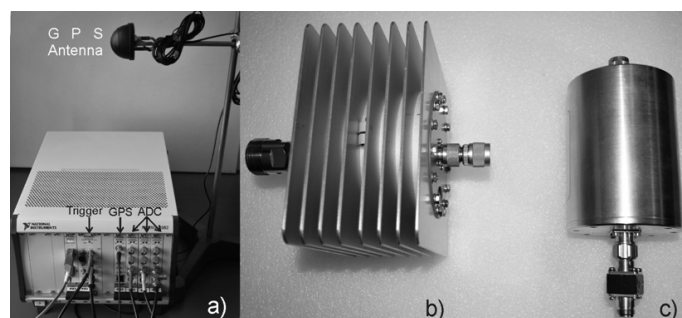


Calculated differences of AC-DC transfer differences of the compared standards

## 03CM126 Development of a System for the Accurate Measurement of Power with Distorted Waveforms

U. Pogliano<sup>25</sup>, B. Trinchera<sup>25</sup>, D Serazio<sup>25</sup>

The research activity developed at INRIM aims at the creation of the traceability at primary level for the electrical power and energy measurement for periodical distorted signals. This new system is built by a calibrator for the generation of the distorted voltages and currents and by a system for the acquisition of the signals and the determination of the electrical power and energy. It is made by a three-phase digitizer integrated by voltage dividers and shunts able to transform the inputs into signals at the suitable level to be sampled by the digitizer. The traceability for this system is derived from the standard of voltage and electrical resistance and from the temporal relation between the relevant signals.



Pictures of some components of the INRIM system for the measurement of power and energy with distorted waveform a) the digitizer b) one of the shunts (20 A) c) resistive divider.