

ICHQP 2022

20th International Conference
on Harmonics and Quality of Power
Naples, Italy, May 29th - June 1st 2022



SPECIAL SESSIONS

Session Title

The IT4PQ project: Towards normative measurement procedures and tests for characterising Instrument Transformers for Power Quality measurements

Abstract

Instruments transformers (IT) are fundamental components of the Power quality (PQ) measurement chain in electricity grids with voltage levels other than low voltage. However, they can introduce significant errors when measuring PQ phenomena due to their frequency-dependent transfer characteristics, intrinsic non-linearities or sensitivity to environmental or circuitual influence factors. Nevertheless, they are generally qualified and tested under AC sinusoidal conditions at power frequency only. The proposed special session focuses on selected activities within the European project 19 NORM05 IT4PQ. This project aims to provide a coordinated and comprehensive approach to assess the performance of voltage and current instrument transformers for PQ measurement in MV distribution networks. It develops the needed metrological framework for national metrology institutes as well as manufacturer laboratories and provides contributions to include respective requirements and test procedures to qualify the ITs behaviour into future IEC standards. The contributions in this special session focus on the definition and application of methods, reference systems and experimental procedures to quantify possible errors introduced by inductive as well as low power ITs in the measurement of PQ phenomena considering realistic conditions in distribution grids. The IT characterisation performed in laboratory under controlled conditions as well as the quantification of the IT performance in presence of influence factors, such as temperature, humidity, proximity effects or burden are addressed.

Chair/(& Co-Chair if present)

Chair	Name	Gabriella Crotti
	Affiliation	Istituto Nazionale di Ricerca Metrologica - INRIM
	Email	g.crotti@irim.it
Co-Chair	Name	Jan Meyer
	Affiliation	Technische Universitaet Dresden, Germany
	Email	Jan.meyer@tu-dresden.de

