



SEMINAR

University of Cassino and Southern Lazio – Department of Electrical and Information Engineering

From Steinmetz to Currents' Physical Components (CPC) power theory: powers and compensation in systems with nonsinusoidal and asymmetrical voltages and currents.

Speaker



Prof. Leszek S. Czarnecki

Distinguished professor at Louisiana State University, Electrical and Computer Engineering Department, Baton Rouge, USA

Abstract

Fundamentals of the Currents' Physical Components (CPC) based power theory, presently the most advanced power theory of single- and three-phase systems with nonsinusoidal and asymmetrical voltages and currents, as well as interpretation of power related phenomena in terms of the CPC-based power theory will be presented at the lecture. Definitions of powers and the power equations for such systems will be discussed and presented at the lecture. Other "schools" of power theory as developed by Budeanu, Fryze, Shepherd, Kusters, Depenbrock, Akagi and Tenti will be discussed as well. It will include discussion on the time- and the frequency-domains, as well as the instantaneous and the averaging approaches to the power theory development.

The lecture will address also implementations of the CPC based power theory for design of reactive balancing compensators for three- and four-wire systems with nonsinusoidal and asymmetrical supply voltages.

Venue

Cassino, Aula Magna di Ingegneria, 30 Maggio 2017, ore 11.00-13.00

Organized by:

Dipartimento di Ingegneria Elettrica e dell'Informazione "M. Scarano"
Corso di Laurea Magistrale in Ingegneria Elettrica

Contact:

prof. Paola Verde (verde@unicas.it)

In collaboration with:

