

Cycle of studies:

Master (Laurea Magistrale)

Degree course:

Energy engineering (Ingegneria dell'Energia)

Title of the thesis:

Measurement and control of DC current component in the MITICA Acceleration Grid Power Supply inverter system

Type:

Experimental / Modelling

RFX Supervisor:

L. Zanotto

Academic supervisor:

P. Bettini

Head of the RFX research group:

E. Gaio

Leader of the RFX research program:

V. Toigo

Description of the thesis:

The thesis deals with the measurement of the dc current component in the inverters of the MITICA Acceleration Grid Power Supply. After a literature survey on the subject of dc current generation and control on three phase inverter systems supplying power transformers, the student shall analyze the precision of the present current transducers and assess the use of new transducers or methods to estimate the dc current component supplied by the inverters in different load conditions and transients. The thesis can be completed by experimental measurements on a dummy load aimed at testing the new transducers or methods and reviewing the operation of the existing dc current controller, with focus on possible strategies for improvement.

Previous experience (if necessary)

none

Date:

10/03/2022

Status:

Available

Name of the student: (when assigned)