

Seminar 14 Monday June 18, 2001

TRANSISTORISED INVERTERS FOR INDUCTION HEATING: FROM THE FUNDAMENTALS TO THE ANALYSIS AND DESIGN 9:00am – 6:00pm

Instructors: Prof. Dr. Enrique Dede, Dr. Jose M. Espi, G.H. Electrotermia, Spain

ABOUT THE INSTRUCTORS

Prof. Dr. Enrique Dede obtained his PhD in Electronics from the University of Valencia. Full Professor in Power Electronics at the University of Valencia. R&D Director at the company G.H. Electrotermia. Member of the European Working Group of the IAS-IEEE, of the International Advisory Board of the PCIM Europe, of the Steering Committee of EPE. He holds several international patents on high frequency inverters for induction heating. He has written more than 200 papers in the fields of Power Electronics. He has a more than 15 years experience in the design of high frequency inverters for induction heating.

Dr. Jose M. Espi has an PhD in Electronic Engineering from the University of Valencia. Assistant Professor of Power Electronics at the University of Valencia. Consultant at G.H. Electrotermia in the field of advanced topologies and dynamic modeling of inverters for induction heating. Spanish trainee at the European Space Agency (ESA) during 1994-96. More than 40 papers in the field of Power Electronics. He has a more than 6 years experience on the design of high frequency inverters for induction heating.

OBJECTIVE OF THE SEMINAR

The aim of the seminar is to give to the participants a view of the actual state-of-the-art of resonant inverters for industrial induction heating applications as well as show the analysis, switching modes of operation and design criteria of such converters. Series resonant as well parallel as resonant inverters are analysed under normal and short-circuit conditions showing switching modes and control strategies as well as design methods.

CONTENTS

- Introduction to Power Supplies for Induction Heating.
- Basic Concepts in Induction Heating.
- Active Elements in Induction Heating Inverters.
- Transistorised Series Resonant Inverters.
- Transistorised Parallel Resonant Inverters.
- Dynamic Modelling and Control Design of Resonant Inverters.
- Series and Parallel Resonant Inverters under Short-circuit Conditions.
- Three Element Resonant Inverters for Induction Heating.

WHO SHOULD ATTEND

- Design engineers involved in the design of inverters for induction heating.
- Technical managers in the field of induction heating.
- Engineers working in the induction heating field, who wish to update their knowledge on inverters for that application.
- Researchers in the field of induction heating coming from the university as well as from institutes.
- Technical managers on fields related with the applications of induction heating.