Fabrizio Dughiero

Curriculum Vitae

November 2013

Last Name:	Dughiero
First Name:	Fabrizio
Born:	Chioggia – Italy
Date:	01/02/1964
Citizenship:	Italian
Status:	Italian Resident
Marital Status:	Married – One Son (18 years old)
Address:	Via Dante, 91 – 35139 – Padova - Italy
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Few Biographical Notes

Fabrizio Dughiero (born in Chioggia on the 1st of February in 1964) graduated from the University of Padova in 1988 in Electrical Engineering earning the highest possible grade in the Italian system (110\110 with honors). After working in the R&D department of the Marelli Macchine Elettriche in Arzignano during all 1990, he was assumed on the 1st of July in 1991 as a Assistant professor by the Department of Electrical Engineering at the University of Padova. In 1998 he was called by the University of Catania as an associate Professor and he transferred back to Padova in 1999 as an associate professor by the Department of Electrical Engineering at the University of Padova. Since July 2012 he has been full professor by the Department of industrial Engineering of the University of Padova. He's now teaching Circuit theory and Electromagnetics for the undergraduate degree in Energy Engineering and he has been teaching Electroheat, a course held in English for the graduate degree in Electric Engineering. At this moment he is teaching photovoltaic technologies, for the graduate degree in Electric Engineering.
He is founder and President of Inovalab, a spin-off company of University of Padova working in the technology transfer for electroheat processes.

He has been the Vice Director of the Department of Electrical Engineering (2009-2011). Since October 2013 is President of the undergraduate course of Energy Engineering.

Education

1977 – 1982 Scientific High School - grade 60/60 – Liceo Scientifico G. Veronese – Chioggia - Italy

1982-1988 – Electrical Engineering – grade 110/110 – magna cum Laude – University of Padova - Italy

2011 – 2013 – Master in Business Administration – CUOA Business School – Altavilla Vicentina - Italy

Other minor courses attended

June 2008 – December 2008 – GAP – Global Access Program – UCLA – University of California Los Angeles – CA – USA - Project: A novel DSS furnace for Multicrystalline Silicon Ingot production

2012 – May – Public speaking course

2012 August – Lean Launchpad Course – Steve Blank – A course about Lean Startup – University of Berkeley – CA - USA

June 2013 – December 2013– GAP – Global Access Program – UCLA University of California Los Angeles – CA – USA – Project: A Breakthrough technology for the production of Sapphire for LED applications

Working Experience

2012 – now
Full Professor at the Department of Industrial Engineering - University of Padova - Italy

1999-2012
Associate Professor at the Department of Electrical Engineering – University of Padova – Italy

1998-1999
Associate professor at the Department of Electronics, electrical and Information Engineering – University of Catania – Italy

1991 – 1998
Assistant professor at the Department of Electrical Engineering – University of Padova – Italy

1990-1991
Teacher in high school – Electrical science and measurements – Technical High School – Chioggia – Italy

1990 (January-October)
R&D Engineer at Marelli Macchine Elettriche – Design of synchronous machines

2004 – Now
President of Inovalab – Spin-off company of the University of Padova working in the field of technology transfer for Electroheat applications

Languages and communication skills

Italian: mother tongue

English: High skills in speaking, reading & written English.

High communication skills - I always get good evaluations of teaching activity from my students attending classes at different levels (undergraduate, graduate and PhD students).

Teaching activities

Assistant professor for the following courses:

- 1991-1998 - Electroheat for the graduate course of Electrical Engineering of the University of Padova

- 1991- 1995 - Circuit Theory and Electromagnetics for the graduate course in Electronic, Computer science and telecommunications Engineering of the University of Padova

- 1992-1998 - Principles of Electrical engineering for the graduate course in Managerial Engineering of the University of Padova

- 1995- 1998 - Circuit Theory and Electromagnetics for the course of bachelor in Electrical engineering of the University of Padova

Head of the following courses:

- 1995 – 1998 - Circuit Theory and Electrical Drives for the undergraduate course in Mechanical engineering of the University of Padova.

- 1996 - 1998 - Electrotechnics for the undergraduate course in Computer science Engineering of the University of Padova.

- 1998 - 1999 he has been university associate professor at the Faculty of Engineering of the University of Catania teaching Circuit Theory and Electromagnetics for the graduate course of Building Engineering.

- 1999 – 2002 - :

    - Principles of Electrical Engineering for the graduate course of Materials, Chemical and Mechanical Engineering

    - Circuit Theory for the undergraduate course in Computer science Engineering;

    - Electroheat for the graduate course of Materials Engineering

    - “Electromagnetic Analysis by means of numerical methods" for the students enrolled in the first year of the PhD course in Electrical Engineering.

- 2002-2003

- Circuit Theory and Electromagnetics for the undergraduate course of Materials and Chemical Engineering.
- Circuit Theory for the undergraduate course of Computer science, Biomedical and Electronic Engineering
- Principles of Electrical Engineering for the graduate course of Materials, Chemical and Mechanical Engineering
- “Electromagnetic Analysis by means of numerical methods" for the students enrolled in the first year of the PhD course in Electrical Engineering.

- 2003-2004
  - Circuit Theory and Electromagnetics for the undergraduate course of Materials and Chemical Engineering.
  - Circuit Theory for the undergraduate course of Computer science, Biomedical and Electronic Engineering
  - Principles of Electrical Engineering for the graduate course of Materials, Chemical and Mechanical Engineering
  - “Electromagnetic Analysis by means of numerical methods" for the students enrolled to the first year of the PhD course in Electrical Engineering.
  - Electroheat for the graduate course of Materials Engineering
- 2005-2008:
  - Circuit Theory for the undergraduate course of Information Engineering
  - Computanional Electromagentics for the graduate course of Electrical Engineering
  - “*Numerical Models for Fields Analysis in Biological Beings* for the students enrolled to the first year of the PhD course in Information Engineering.
- 2008 – 2011
  - Circut Theory and Electromagnetics for the undergraduate course of Energy Engineering
  - Electroheat for graduate course of Electrical Engineering

- Computational Electromagnetics for graduate course of Electrical Engineering

- 2011- now

  - Circut Theory and Electromagnetics for the undergraduate course of Energy Engineering

  - Photovoltaics Science and Technologies for the graduate course of Electrical Engineering

In these years at the Department of Electrical engineering of the University of Padova and Catania he has been supervisor of many students for graduation theses preparation.

He has been supervisor of 12 PhD students in different research topics

Research activity

The scientific activity has been carried out at the Department of Electrical engineering of the University of Padova and University of Catania. The research topics mainly regard Electroheat and in particular induction heating, numerical methods for the analysis of electromagnetic and thermal fields coupled together and the development and application of optimization techniques for the design of electromagnetic devices and in particular of induction heating systems. The expertise in the field of electroheat has been used to the study of Hyperthermia techniques for cancer cure with particular attention to the development of numerical codes for the solution of electromagnetic and thermal problems in human body taking into account the blood perfusion (liver, pelvis, lung etc.). In the research activity the candidate has always tried to find the exact equilibrium between theoretical research, and experimental activity. In the last years the research activity is also addressed to the renewable energies and in particular in the use of EPM (Electromagnetic Processing of Materials) in the production chain of Silicon for photovoltaic applications. Such research activity needs a consistent number of people and for this reason in these years a remarkable effort has been made in order to create a minimal stable research group.
In the last years the candidate has become the head of the Laboratory of Electroheat of Padova. Such laboratory has three permanent positions (a full professor, an assistant professor and high qualified technician) 1 postdoc and 4 PhD students.

The main research activities refer to the following topics:

1. Application of the amorphous magnetic materials to the realization of transformers in induction heating systems.

2. Analysis of coupled electromagnetic and thermal problems by means of the realization of numerical procedures based on FEM method Finite difference method. Analysis of the mutual influence load-power supply in induction heating, by means of procedures suitable to solve coupled fields-circuits problems.

3. Study and development of analytical methods for 1D and 2D problems and numerical methods for the evaluation of performance of polyphase induction heating systems

4. Analysis of transverse flux induction heating systems for treatment of non-magnetic sheets

5. Analysis and development of optimization techniques for automatic design of electromagnetic devices, induction heating systems and for control of free surfaces in molten metals

6. Hyperthermic techniques based on electromagnetic sources for cancer cure.

7. EPM techniques applied to the development of crystal growth processes for the production of SoGSi (Solar Grade Silicon)

8. Development of new devices and processes for Electrochemotherapy in cancer cure

Responsibility of projects funds

Project STPD08JA32_003 AACSE - Algorithms and Architectures for Computational Science and Engineering granted by University of Padova – Number of Partners: 5 – duration: 2010-2013 Group budget 110.000 Euro

Project: Polo Fotovoltaico della Regione Veneto (Reserch center for photovoltaics) – Number of partners: 9 – Total Budget: 2.400.000 Euro – Group Budget: 290.000 Euro

Project HEECS – High Efficiency Electronics Cooking Systems – Coordinator Whirlpool Europe – Number of partners: 9 – duration: 2011-2014 – total budget: 4.990.000 Euro – University of Padova budget: 235.000 Euro

Project ESPOSA – Efficient Systems and Propulsion for Small Aircraft – FP7-AAT-2011-RTD-1 – Coordinator VZLU – Czech Republic –Number of partners: 39 – duration 2011-2015 – total budget 29.980.000 Euro – University of Padova budget: 270.000 Euro

Project SIKELOR – Silicon Kerf losses recycling – Coordinator HZDR – Reserch institute for Fluidynamics – Dresden –Germany- Number of partners: 5 – Total Budget 1.400.000 Euro – University of Padova budget: 272.000 Euro.

International Cooperations

- Institute for Electroheat – Hanover University – Germany - Head – Prof. Bernard Nacke
- LEP (Laboratory of Padua University) has an official agreement for exchange student and for a bilateral PhD title. Research and teaching programs.

- University of Saint Petersburg – Russia – Head Prof. Yuri Blinov
- Official agreement for exchange students at different levels. Research and teaching programs.

- University of Novo Sibirsk – Russia – Head prof. Alexander Aliferov
- Official agreement for exchange students at different levels. Research and teaching programs.

- University of Samara – Russia – Head prof. Yulia Pleshisteva
- Official agreement for exchange students at different levels. Research and teaching programs.

- University ETS (Ecole de Technologie Superieure) – Montreal – Canada – Head Prf. Philippe Bocher.

- Official agreement for exchange students at different levels. Research programs in the field of induction hardening of gear for aerospace industry. Bilateral PhD degree.

The research activity is mainly described by the list of publications, books and patents at the end of the present CV.

Other teaching, organizing and scientific activities

In frame of the intensive course granted by European Union (Tempus Tacis project T-JEP – 10021-95), titled "Economics in Electroenergetics and Energy Saving by the rational use of Electrotechnologies", he has held, (1996, 1997 and 1998) at the Electrotechnical University of S. Petersburg (Russia), some classes about: “Numerical methods and optimization techniques in the design of induction heating systems”.

In November 1997 he has held an intensive course of two days (16 hours class) at the company Tetrapak R&D Spa of Modena titled: " Modern technologies for welding of thermoplastic materials".

He has been responsible for the University of Padova of a research project CRAFT financed by the European Union N. Joe3-ct98-7023 (1 December 1998 - 1 December 2000), carried out in cooperation with the Institute of Electroheat of the University of Hanover, 2 German companies and 2 Italian companies titled: " Transverse flux induction heating of non-ferrous and precious metal strips ".

(Research project of National Interest MURST) He participated to the research activities in the frame of project PRIN1998 (AIPOtt: "Realization of an Innovative software for the Optimization of Electromagnetic Devices").

(Research project of National Interest MURST) He participated to the research activities in the frame of project PRIN2000 ("Advanced Tools for the optimal design in Electromagnetism (SAOPE)").

(Research project of National Interest MURST) He participated to the research activities in the frame of project PRIN2002 ("Numerical codes based on a finite formulation of electromagnetics and comparative analysis with differential approaches ").

He participated to a two years project TEMPUS granted by European Union (1999-2001). In the frame of this project he has prepared some booklets, regarding the application of the numerical methods for the design of systems of induction heating systems as teaching material during the course held at the University of S. Pietroburgo, Samara and NovoSibirsk (Russia).

He is reviewer for the following Journals:

COMPEL journal
Computational Materials Science
International Journal of Microstructure and Materials properties(IJMMP)
IEEE Trans. On Magnetics
IEEE Trans. On Bioengineering
IEEE Trans. On Industry Applications
Medical and Bilogical Computing and Engineering

Journal of Hyperthermia
Journal of Applied Mechanics and Electromagnetics
Medical Physics

He belongs to the Editorial Board of the following conferences:

COMPUMAG
CEFC – Conference on Electromagnetic Fields Computation
ESHO – Conference od the European Society of Hyperthermic Oncology
EPM – Conference on Electromagnetic Processing of Materials
MEP - Modelling of Electromagnetic Processing of Materials
HES – Conference on Heating by Electromagnetic Sources

He has been scientific secretary:

- IHS98 – International Induction Heating Seminar –Padova, Italy May 13th-15th 1998
- HIS01 - International Seminar on Heating by Internal Sources – Padova, Italy September 12th – 14th 2001
- HES04 – International Symposium on Heating by Electromagnetic Sources – Padova, Italy June 22th-25th 2004
- HES07 – International Symposium on Heating by Electromagnetic Sources – Padova, Italy June, 19th - 22th 2007.
- HES10 – International Conference on Heating by Electromagnetic Sources – Padova – Italy May 19th – 21th 2010

He is the current Chairman of HES conferences and he was chairman of the last HES13 – International Conference on Heating by Electromagnetic Sources – May 21th- 24th 2013

He has been chairman of different sessions in international conferences:

HES
EPM
MEP
CEFC
ESHO

He has been Guest Editor of the following special Issue of COMPEL (International Journal for Computation and Mathematics in Electrical and Electronic Engineering)
COMPEL Journal Vol. 22 N. 1 2003 (Selected Papers from HIS01 Conference)
COMPEL Journal Vol. 24 N. 1 2005 (Selected Papers from HES04 Conference)
COMPEL Journal Vol. 27 N. 2008 (Selected papers from HES07 Conference)
COMPEL Journal, Vol. 30, N 5, (Selected papers from HES10 Conference)
IJAEM Journal, to be published in 2014 (Selected papers from HES13 Conference)

He organized in September 2002, on behalf of the UIE, (Union International d' Electricitè) the "Young Engineers Study Tour" travel - Italy.

In June 2004 he organized at the University of Padova an intensive course on " Induction heating and EPM" for PhD students coming from different European countries. It was participated by approximately 20 people from 8 European countries.

The same intensive course has been organized in the frame of HES13 conference in May 2013, with the participation of more than 14 PhD students coming from 5 different European countries.

Invited seminars and papers

1996 - Institute of Electroheat of Hanover – Germany - title: "Recent Research Activities at the laboratory of Electroheat of Padova".

1997 - Institute of Electroheat of Hanover – Germany - title: "Optimization Techniques applied to the design of induction heating systems".

2005 - University of Ilmenau – Germany - title: "Electromagnetic Levitation Melting ".

2005 – University of Bologna – Italy title: "Induction Heating Technololgy and applications".

2005 - "invited paper" - Conference ICHS – International Conference on Hyperthermic Oncology XXVII annual meeting (International conference of Hypethermic Clinical Society)

2006 – University of Rome "La Sapienza" – Italy title: Numerical methods for the design of induction heating systems".

2007 – Politechnic of Turin – Italy – Title: "Numerical methods for the prediction of electromagnetic and thermal field distribution during hyperthermia treatments",.

2007 Graz Hospital – Austria - title: "Numerical simulation of hyperthermia treatments: a powerful method for treatment planning".

2007 invited speaker - SITILO (Società Italiana di Terapie Integrate Locoregionali in Oncologia) title: "Focus on Innovative Locoregional Oncotherapies"

2008 invited speaker - SITILO (Società Italiana di Terapie Integrate Locoregionali in Oncologia) title: "Innovative techniques for cancer therapy".

2009 – Jao Tong University – Shanghai – China – Title: "Research activities at the Laboratory of Electroheat of Padova"

2010 – IKZ Berlin – Germany - Invited seminar - title: "A new furnace for the directional solidification of Multicrystalline silicon"

2012 – NTNU University of Trondheim – Norway – title: "Research activities at LEP: Laboratory of Electroheat of Padova"

2013 – University of Alabama – Tooscalusa – Alabama – USA- title: "New frontiers for the application of induction heating: energy saving and materials for renewable energies

2013 – Invited paper – CSPV Conference – Shaijaban – China – title: “Numerical analysis and experimental results of ingot casting processes for high performances multi-crystalline wafers by means of iDSS furnace”

Committee and boards

Member of Board of the “European Society of Hyperthermic Oncology”,

Member of WG9 (Working Group) of CENELEC, for the development of standard in the field of Human exposure to electromagnetic fields produced by induction heating installations

Member of technical committee CT27 – Elettrotermia del CEI – Electroheat for the Italian Electrical Engineerung committee for standards.

Member of the steering committee of the PhD school of Industrial Engineering

Member of the steering committee of the PhD school on Information Engineering

Best paper awards

2004 - “Best poster paper “CEFC 2004: “M. Bullo, F. Dughiero, M. Guarnieri, E. Tittonel: “The Prediction of Temperature Distribution in RF-Ablation Therapy by Means of the Cell Method”.

2007 - Best paper ESHO2007 conference - Prague: A. Candeo, F. Dughiero, “Numerical FEM Models for the Prediction of Temperature during MW Superficial Hyperthermia Treatments”.

2009 - E. Sieni, F. Dughiero, M. Forzan: Evaluation of the exposure to magnetic field generated by welding equipment with reference to induced current density, Proc. Of Flux Users Conference, 2009 – Student paper Award

2010 – Best poster Award at HES Conference 2010 (F. Dughiero, M. Forzan, M. Garbin, C. Pozza, E. Sieni, A 3D numerical fem model for the simulation of induction welding of tubes, Proc. International Symposium on Heating by Electromagnetic Sources, SGEditoriali, Padova, 113-120, May 19-21, 2010)

2011 Kim Young research award at ESHO 2011 (E. Sieni, P. Di Barba, F. Dughiero, Synthesis of magnetic fluid distribution in hyperthermia: numerical tools Proc. ESHO 2011, Abstract book pp. 34, Aarhus Denmark, 2011– oral presentation)

Consulting and research contracts activities

He carried out a lot of consulting and research activities in the frame of research contracts between companies and the Department of Electrical Engineering of Padova.

Some examples are:

Electromagnetic and thermal design of induction heating systems for treating of magnetic steel bars and tubes (Contract with Company ATE of Vicenza - 1995).

Electromagnetic and thermal calculation of a continuous transverse flux induction heating system of thin gold and silver strips (Contract with Company UNOAERRE of Arezzo - 1995).

Measurements of magnetic and electric fields and in proximity of equipment for induction hardening up to 500 kHz (Contract with Company IVET of Vicenza - 1997)

Design and realization of equipment for the elctromagentic test of wire-ropes (Contract with the independent province of Trento - 1997)

Analysis and optimization of the profiles of temperature in induction heating devices for the epitaxial growth of semiconductors (Contract with company LPE of - Milan - 1997)

"Anlysis and design of inductors for the welding of thermoplastic materials conyaining films of aluminium" (Contract with Tetrapak Research and Development SPA of Modena 1998)

"Analysis of special transformers by means of the use 3D FEM methods" (Contract with ABB - 2000).

"Study by means of FEM method of magnetic shunt transformers for welding machines" (Contract with Telwin S.P.A. of Villaverla - 2000)

"Use of numerical methods for the analysis of the performances of DC permanent magnets motors" (Contract with Company ELVI of Brescia - 2001)

"Analysis of feasibility of a transverse flux heating systems for the annealing of silver strips" (Contract Company Pietro Galliani of Vergato, Bologna - 2002)

"Use of numerical methods for the analysis and the optimization of the performances of electromagnetic fluid flow sensors" (Contract with Companyy Hemina S.P.A. of Montagnana, Padova - 2002)

"Optimization of infrared and induction ovens for food baking" (Contract with Sitos of Rovereto, Trento 2003)

Characterization of radiating panels for industrial applications by means of IR camera and spectrum-photometer (Stalam Bassano - 2005)

“Home appliances of induction heating” (Contract with Whirlpool Europe – 2005)

Optimization of adhesion of organic coatings to PET bottles by means of drying techniques based upon RF or MW heating (Contract with Sipa – Zoppas Industries – 2006)

“R&D activities for the development of new applications of Induction Heating” (Contract with SAET – Torino 2007)

“Rapid cooling systems for Bright annealing treatments of AISI 304, 304L, 316 and 316L tubes” (Contract with SAET – Torino – 2008)

“Analysis of the scientific literature and experimental tests on the efect of Human exposure to EM fileds produced by Induction cooktops” (Contract with Whirlpool Europe – 2008)

Fabrizio Dughiero
Scientific Papers

Summary table

Papers on International Journals:	**64**
Papers on Proceedings of International conferences:	**115**
Scientific monographies:	**3**
Scientific books and chapters on books	**5**
Teaching books:	**2**
Patents:	**8**

International journals

[R1] F. Dughiero, S. Lupi, M.F. Nunes: "20-50 kHz Amorphous Core Power Transformers for Induction heating Applications", Journal of Applied Physics 69 (8), 15 April 1991.

[R2] F. Dughiero, M.Guarnieri, S. Lupi: "An Optimization Procedure for Electromagnetic Confinement and Levitation Systems" IEEE Trans on Magnetics, Vol. 29, N. 2, March 1993, pp. 1758-1761.

[R3] F. Dughiero, S. Lupi, P. Siega: "Analytical Calculation of Travelling Wave Induction Heating Systems", COMPEL Journal, Vol. 13, N. 1, March 1994, pp. 183-186.

[R4] V. Bukanin, F. Dughiero, V. Nemkov, S. Lupi: "3D-FEM Simulation of Transverse-Flux Induction Heaters", IEEE Trans. on Mag. Vol 31, No 3, May 1995, pp. 2174-2177.

[R5] N. Bianchi, F. Dughiero: "Optimal Design Techniques Applied to Transverse-Flux Induction Heating Systems", IEEE Trans. on Mag Vol. 31, No 3, May 1995, pp. 1992-1995.

[R6] F. Dughiero, S. Lupi, P. Siega: "Calculation of Forces in Travelling Wave Induction Heating Systems", IEEE Trans. on Mag. Vol 31, No 6, November 1995, pp. 3560-3562.

[R7] F. Dughiero, S. Lupi, P. Siega: "Analytical Calculation of Double-Side Planar Travelling Wave Induction Heating Systems", COMPEL Journal, Vol. 14, N. 4, December 1995, pp. 251-255.

[R8] I. Artuso, F. Dughiero, S. Lupi., A. Lainati:"Intermediate Induction Reheating in Rolling Mills for Optimum Temperature Distribution: " Studies in Applied Electromagnetics and Mechanics No. 10, pp. 230-233

[R9] F. Dughiero, M. Forzan, S. Lupi:"3D Solution of Electromagnetic and Thermal Coupled Field Problems in the Continuous Transverse Flux Heating of Metal Strips", IEEE Trans. On Mag. -Vol. 3, N. 2, March 1997 pp. 2147-2150.

[R10] P.Di Barba, F. Dughiero, F. Trevisan:" Optimization of the Loney's Solenoid through Quasi-Analytical Strategies: a Benchmark Problem Reconsidered", IEEE Trans. On Mag. -Vol. 3, N. 2, March 1997 pp.1864-1867.

[R11] P. Di Barba, F. Dughiero, F. Trevisan:" Optimal Design of Windings for the Continuous Induction Hardening Process of Steel Bars", Int. J. of Applied Electromagnetics and Mechanics 9 (1998) 53-63 IOS Press.

[R12] Dughiero F., Forzan M., Lupi S., Tasca M.:"Numerical and Experimental Analysis of an Electro-Thermal Coupled Problem for Transverse Flux Induction Heating Equipment", IEEE Trans. On Mag. -Vol. 34, N. 5, September 1998 pp.3106-3109.

[R13] Battistetti M., Dughiero F., Nunes Alves M.:"Optimization Procedures in the Design of Continuous Induction Hardening and Tempering Installations for Magnetic Steel Bars", IEEE Trans. On Mag. -Vol. 34, N. 5, September 1998 pp.2865-2868.

[R14] S.Lupi, M.Forzan, F.Dughiero, A.Zenkov: "Comparison of Edge-Effects of Transverse Flux and Travelling Wave Induction Heating Inductors", IEEE Trans. On Mag, Vol. 35, No 5, September 1999, pp. 3556-3558

[R15] F. Colaone, A. Dallago, F. Degasperi, F. Dughiero, M. Forzan, S. Lupi: "Design of Light Electromagnetic Detectors for Steel Wire Ropes Inspection", Studies in Applied Electromagnetics and Mechanics No 18,.pp 301-304

[R16] M. Battistetti, F. Dughiero, S. Lupi: "Optimisation of Edge-Effects in Induction Heating Applications", COMPEL Vol. 19, No 2, 2000 pp. 589-595

[R17] F. Dughiero, S. Lupi, S. Ponchiroli: " The Prediction of Thermal Transients in Induction Heating of Rectangular Billets ", COMPEL Vol. 19, No 2, 2000 pp. 712-717

[R18] S. Alfonzetti, E. Dilettoso, F. Dughiero, N. Salerno: " Stochastic Optimisation of an Induction Heating System by means of DBCI ",COMPEL Vol. 19, No 2, 2000 pp. 569-575

[R19] M. Battistetti, F. Dughiero, S. Lupi, M. Farina, P. Di Barba, A. Savini: ”Optimal Design of an Inductor for Transverse-Flux Heating using a Combined Evolutionary-Simplex Method”, COMPEL Journal Vol. 20 N. 2 2001 pp. 507-522

[R20] R. Benato, F. Dughiero, M. Forzan, A. Paolucci “Proximity Effect and Magnetic Field Calculation in GIL and in Isolated Phase Bus Ducts”, IEEE Trans. On Magnetics, Vol. 38, NO. 2, March 2002.

[R21] A. Babini, R. Borsari, F. Dughiero, A. Fontanini, M. Forzan : “ 3D FEM Simulation of Inductors for Induction Sealing”, COMPEL Journal Vol. 22 N. 1 January 2003, pp. 170-180

[R22] F. Dughiero, S. Lupi, A. Muhlbauer, A. Nikanorov: “ TFH – Transverse flux Induction Heating of non-ferrous and precious metal strips – Results of a UE Research Project”, COMPEL Journal Vol. 22 N. 1 January 2003, pp. 134-148

[R23] I. Artuso, F. Dughiero, S. Lupi, B. Nacke, A. Nikanorov, D. Ostwaldt, M. Schiavon: “Advantages of Intermediate Induction Heating in Hot mills for Flexible steel production”, Elektrowarme International, Vulkan-Verlag Essen, Vol. 2, June 2002, pp.69-75

[R24] P. Di Barba, F. Dughiero, S. Lupi, A. Savini: “Optimisation techniques applied to the design of Inductors for Industrial Applications”, COMPEL Journal Vol. 22 N. 1 January 2003, pp. 111-122

[R25] P. Di Barba, F. Dughiero, A. Savini:”Multiobjective Shape Design of an Inductor for Transverse-Flux Heating of Metal Strips”, IEEE Trans. On Magnetics, Vol. 39 N. 3, May 2003, pp. 1519-1522.

[R26] R. Benato, F. Dughiero: “Solution of Coupled Electromagnetic and Thermal Problems in Gas Insulated Transmission Lines”, IEEE Trans. On Magnetics, Vol. 39 N. 3, May 2003, pp. 1741-1744.

[R27] F. Dughiero, M. Forzan, S. Lupi: “LEP - Laboratory for Electroheat of Padua University” – Elktrowarme International – Vulkan Verlag – Vol. 1 – 2004. Pp 30-36. (invited paper)

[R28] M. Bullo, F. Dughiero, M.Guarnieri, E. Tittonel: “Isotropic and anisotropic electrostatic field computation by means of the Cell Method”, IEEE Transactions on Magnetics, Vol. 40 No. 2, marzo 2004, pp.1013-1016.

[R29] M. Bullo, F. Dughiero, M.Guarnieri, E. Tittonel: “A 2-D Formulation for Eddy Currents Anisotropic Problems with the Cell Method”, IEEE Transactions on Magnetics, Vol. 41, pp. 1368-1371. 2005

[R30] F. Dughiero, S. Corazza: " Numerical simulation of induction heating thermal deposition for oncological hyperthermic treatment", Medical & Biological Engineering & Computing, Vol 43. pp. 40-46, 2005

[R31] F. Dughiero, M. Bullo, V. D'Ambrosio, M. Guarnirei: "Coupled Electrical and Thermal Transients Conduction Problems with a quadratic Interpolation Cell Method Approach" . IEEE Transactions on Magnetics. Vol. 42, N. 4, pp. 991-994. 2006

[R32] F. Dughiero, M. Bullo, M. Guarnieri, E. Tittonel: "Non linear Coupled Thermo-Electromagnetic Problems with the Cell Method". IEEE Transactions on Magnetics Vol 42, N.4, pp. 1003-1006. 2006

[R33] F. Dughiero, V. D'Ambrosio, M. Forzan: "Numerical models of RF-thermal ablation treatments". International Journal of Applied Electromagnetics and Mechanics Vol 25 N. 1-4. 2007

[R34] F. Dughiero, V. D'Ambrosio, P. Di Barba, M.E. Mognaschi, A. Savini: "Non-invasive thermometry for the thermal ablation of liver tumor: a computational methodology". International Journal of Applied Electromagnetics and Mechanics Vol 25 N. 1-4. 2007

[R35] F. Dughiero, V. D'Ambrosio: "Numerical Model for RF capacitive regional deep Hyperthermia in pelvic tumours". Medical & Biological Engineering & Computing. vol. 45, N.5, pp. 459-466. 2007

[R36] F. Dughiero, M. Bullo, V. D'Ambrosio, M. Guarnieri: "A 3-D Cell Method Formulation for coupled Electric and Thermal Problems". IEEE Transactions on Magnetics Vol.43, N. 4, pp. 1197-2000. 2007

[R37] F. Dughiero, M. Bullo, M. Forzan, S. Lupi: "Laboratory Prototype of the Double Frequency longitudinal electromagnetic levitator for levitation melting". Magnetohydrodynamics vol. 43, N.2, pp. 151-159. 2007.

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Faithfully

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