

## RESUME

**Name:** Luís Manuel dos Santos Redondo  
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**Nationality:** Portuguese  
**Address:** Lisbon Engineering Superior Institute, ISEL,  
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**Research ID:** <http://www.researcherid.com/rid/A-3078-2009>

### Education:

- Doctor degree in *Electric and Computing Engineering*, Technical Superior Institute from the Technical University of Lisbon IST/UTL, Portugal, 29/07/2004.
- Master degree in *Nuclear Physics*, Faculty of Sciences from the University of Lisbon FCUL/UL, Portugal, 12/1/1996.
- Diploma degree in *Electric Engineering*, Lisbon Engineering Superior Institute from the Lisbon Polytechnic Institute IPL/ISEL, Portugal, 28/9/1992.
- Bachelor degree in *Power Systems and Energy*, Engineering Superior Institute from the Lisbon Polytechnic Institute IPL/ISEL, Portugal, 6/3/1990.

### Professional Membership:

- Member of the Engineers Portuguese Society, OE nº39440, from 21 October 2001.
- Member of the Nuclear Physics Center from Lisbon University, CFNUL, from July 2004. Scientific coordinator of the Hyperfine Interactions & Instrumentation Group from 1 January 2008.
- Member of the Nuclear and Plasma Science Society from the Institute of Electrical and Electronics Engineers, NPSS/IEEE, nº 80599677, since 1 January 2007.

### Employment:

- Coordinator Professor, Lisbon Engineering Superior Institute ISEL/IPL, since April 2006
- Adjunct Professor, ISEL/IPL, October 1996 – March 2006
- Assistant Professor, ISEL/IPL, October 1993 – September 1996
- Monitor, ISEL/IPL, April 1991 – September 1993

**Teaching:**

At the Electrical Engineering Department of ISEL

- Fundamentals of Electronics, Electrical Engineering Degree Course, ISEL (Supervisor of this course since 2006), years 2006/2007 and 2007/2008.
- Embedded Electronic Circuits, Electrical Engineering Master Course, ISEL (Supervisor of this course since 2007), from years 2007/2008 till present.
- Drive, Protection and Control of Power Semiconductors, Electrical Engineering Master Course, ISEL (Supervisor of this course since 2007), from years 2007/2008 till present.
- Applied Electronics, Electrical Engineering – Automation and Power Systems Degree Course, ISEL, from years 1998 till 2005.
- Complements of Electrical Machines, Electrical Engineering – Automation and Power Systems Degree Course, ISEL, from years 1995 till 2002.

**Student Supervision:**

At the Electrical Engineering Department of ISEL

Current PhD Degree Students:

- João Mendes, “Híbrido Pulsed Modulator for Biomedical Applications – The use of Semiconductors and Transmission Lines”
- Hiren Canacsinh, “High-Voltage Bipolar Pulsed Modulator based on Power Semiconductors – Analysis and operation optimization”
- José Lopes, “High Current Ion Implanter Operation Optimization”
- Luis Encarnação, “Multilevel Converter based on the Marx Generator Concept – Applications to the Power Network”

Current MSc Degree Students:

- João Silva, “Modeling and assembling of a High Voltage High Frequency transformer for high power supplies”
- João Santos, “Capacitor Charging Power Supply”
- Nuno Miquelina, “Generic Control system for Power Converters based on FPGA”
- António Cavaleiro, “Power Supply and Control system for a Geiger-Muller Detector”
- Marco Rodrigues, “Resonant Circuit with Energy Recovery for the ISOLDE/CERN Modulator”
- Carlos Caldeira, “High Voltage Pulsed Generator based on Magnetic Compression”

Past MSc Degree Students:

- Hiren Canacsinh, “High Voltage Bipolar Pulsed Generator with Autonomous Supply of the Semiconductor switches Triggering”, July 2008
- José Lopes, “Automation of a Particle Accelerator”, July 2007
- Carlos Mendes, “Development of Active Photomultiplier Bases for Nuclear Spectroscopy”, January 2009
- Nuno Ferrão, “Development of fast Discriminators for Nuclear Spectroscopy”, January 2009
- Henrique Ribeiro, “Monitoring and Control of a Three-Phase Induction Motor from a Microcontroller”, January 2010
- Sérgio Rebelo, “Operation Analysis of a High Voltage Bipolar Modulator based on PSPICE”, January 2010
- Eurco Gervásio, “Modeling and Assembling of a High Frequency Inverter for a High Voltage Power Supply”, November 2011
- Carlos Araújo, “Operation Analysis of the Proposed ISOLDE/CERN Modulator based on PSPICE”, May 2012
- Nuno Santos, “Control of a High Voltage Bipolar Pulsed Generator from a Microcontroller”, January 2013
- Tyrone Jorge, “Magnetic Press with Energy Recover for Molding and Cutting Al Tubes and Sheets”, March 2013

Past Degree Students:

- Pedro Costa and Hugo Costa, “Automation of a High Vacuum Evaporation Chamber”, September 2008
- Pedro Carvalho and Armando Venâncio, “Pulsed Voltage Multiplier”, September 2008
- Rudi Soares and Ivan Furtado, “Negative Voltage Multiplier for Photomultiplier Tubes”, April 2008
- Élvio Freitas and André Paço, “Flyback Pulsed High Voltage Power Supply”, January 2007
- Sérgio Costa, “Development of a Transistorize base for Gamma radiation Detector”, January 2006
- Carlos Pina and Miguel Pereira, “Two Windings Pulsed Transformer – Modeling and Parameters Determination”, November 2005
- Pedro Tavares, “Electronic Marx Generator”, December 2003
- Hiren Canacsinh, “Mass Spectrometry Automation of a High Current Ion Implanter”, December 1999

### Management at ISEL

- Elected Head of the Electrical Department of ISEL for 2010-2013 four years period
- Elected Representative of the scientific area of Electrical Engineering of ISEL for 2008-2009 two years period
- Elected Head of the Electrical Department of ISEL for 2006-2007 two years period
- Responsible for the proposals of the Degree on Electrical Engineering, started in 2006 and Master on Electrical Engineering , started in 2007, of the Electrical Department of ISEL
- Member of the Scientific Committee of ISEL from 2004
- Member of the Pedagogic Committee of ISEL from 1996 till 1997
- Member of the jury for Coordinator Professor and Adjunct professor examinations

### Consulting:

- Scientific and technological advisor in Ion Implantation developments, for the Nuclear and Technological Institute, ITN, Portugal, May 2006 – December 2009
- Scientific and technological advisor for Electromagnetic Forming developments, for LUSOFORMA, SA, Portugal, May 2007 - April 2008

### Major research Projects:

- Five Technology and Science Portuguese Foundation, FCT, grants adding to €157,000.00. Started September 2008 till March 2014. The main goal of this project was to develop a solid-state modulator with energy recovery to the ISOLDE/CERN facility, which produces radioactive ion beams.
- Two Portuguese National Strategic Reference Framework, QREN, grants adding to about €1,000,000.00. The main goal of these project is the development of high-voltage solid-state bipolar and monopolar pulsed modulators for industrial applications, focus in food processing, Electroporation of vegetable cell by Pulsed Electric Fields, magnetic forming, plasma implantation.

### Miscellaneous:

- Co-founder, in 30 November 2011, of the company Systems, Lda, [www.energypulsesystems.com](http://www.energypulsesystems.com), which develops, assembles and sells solid-state modulator for various applications, from the environment to food processing.
- Founder of the Pulsed Power Advanced Applications Research Group in 26 November 2009, <http://www.giaapp.isel.pt/>, integrated in the Electrical Department of ISEL, with the purpose of Research, Innovate, Educate and Unite people in the field of Pulsed Power technology and Applications.

**Awards/Honors:**

- 2 invited/plenary presentations
- Elected member of the IEEE Nuclear and Plasma Sciences Society NPSS, Standing Technical Committee for Pulsed Power Science and Technology, PPS&T, from 2011 to 2016.
- Appointed NPSS Distinguished Lecture Lecturer. Topic, “Solid-State Pulse Power on the Move”, in December 2011.

**Expertise:**

- Power Electronics
- Semiconductor based Pulsed Power Technology design,
- Industrial Pulsed Power Applications,
- High Voltage and High Current Design,
- Ion Implantation Technology

**Major Research Contributions**

- New solid-state Marx modulator topologies for unipolar and bipolar pulse generation for various types of loads (i.e. resistive, capacitive and inductive).
- New solid-state pulsed topology based on the HV dc multiplier.
- Power electronics forward and flyback topologies adapted for pulse generation, single and stacked topologies using transformer associations
- New solid-state resonant circuit for high-current pulse applications with energy recovery.
- New hybrid modulator for bipolar pulse generation stacking a solid-state Marx unipolar generator with a Blumlein line.
- Industrial application of Pulsed Electric Field for controlling the contaminants in microalgae cultures.
- New method for measuring below 1 mA ion currents in an High Current Ion Implanter, at ITN, from 1993
- Development of the new two axes Goniometer for the Van de Graaff accelerator of the Nuclear and Technological, ITN, in operation since October 1992
- Responsible for the operation and development of the High Current Ion Implanter of the Nuclear and Technological, ITN, from 1992 to 2000, developing the mass spectrometry and current measurements, and the production of ion beams from low to high vapor pressure materials. Fellow of the Physical Department of the ITN (Nuclear and Technological Institute) from 1 October 1992 till 1 October 1998.

### **National/International Visibility**

- Elected member of the Pulsed Power Science & Technology committee from the Nuclear and Plasma Science Society, NPSS, from January 2011 to a six years period.
- Nominated Distinguished Lecturer of the PPS&T-NPSS since June 2011.
- Invited Editor of the October 2012 Special Issue on Pulsed Power Science & Technology of the Transactions on Plasma Science IEEE journal.
- Publications Chair of the IEEE Pulsed Power and Plasma and Science Conference 2013, PPS 2013, and Technical Area Coordinator, TAC, for Pulsed Power Switches and Components.
- Chair of the session under ‘Switching’ (Session 7.0, Pulse Power and Plasma Applications) for the 39th IEEE International Conference on Plasma Science (ICOPS 2012) held in Edinburgh, Scotland, UK, from July 8 to July 12, 2012.
- Reviewer of Wiley-IEEE Press Books in the field of Pulsed Power Technology
- Regular reviewer of the following scientific Journals, related to Power Electronics, Pulsed Power and applications:
  - IEEE Transactions on Power Electronics, TPE
  - IEEE Transactions on Dielectrics and Electrical Insulation, TDEI
  - IEEE Transactions on Plasma Science, TPS
  - IEEE Transactions on Magnetic, TMAG
  - AIP, Review of scientific Instruments, RSI

### **Invited/Plenary Presentations**

- *“Bipolar Solid-State Arbitrary-Waveform Generator for capacitive Loads”*, at the 12th International Workshop on Plasma-Based Ion Implantation and Deposition, held in Poitiers, France, from 1 to 5 July 2013.
- *“Pulsed electric field pre-treatment for apple juice extraction: Evaluation of monopolar and bipolar pulses effects”*, at the IEEE International Power Modulator and High Voltage Conference, San Diego, CA, US, 3 – 7 Jun 2012.
- *“Solid-State Pulse Power on the Move”*, at the University of New Mexico, US, 30 November 2012.

### **Scientific Research Statistics:**

- 7 Portuguese research projects as scientific Coordinator
- 5 Portuguese Patents
- 1 book chapter
- 28 papers in international peer-review journals

- 32 papers in international peer-review conference proceedings
- 38 presentations at Conferences, Workshops and Seminars
- 11 divulgation papers

#### **Funded Research:**

##### **On-going**

###### Scientific Coordinator

- “Target voltage modulator development for the on-line isotope separator at ISOLDE/CERN”, CERN/FP/123589/2011, from 1 April 2011 with duration of 2 years, financed in €30,000.00 by the Portuguese Science Foundation, FCT.
- “High-Voltage Bipolar Pulsed Generator”, n.º 30293, from 1 June 2013 with a duration of 1 year, financed in €129,422.28 by the LISBOA-01-0202-FEDER, program 07/2012 - SI I&DT, National Strategic Reference Framework, QREN.

###### Member of the Scientific Team

- “Increasing the energy efficiency of plasma conversion of methane”, PTDC/FIS-PLA/2135/2012, from 1 June 2013 with a duration of 2 years, financed in €102,716.00 by the Portuguese Science Foundation, FCT.
- “Neutrino direct mass determination – Portuguese contribution to MARE”, PTDC/FIS/116719/2010, from 1 January 2012 with a duration of 2 years, financed in €70,000.00 by the Portuguese Science Foundation, FCT.
- “Perturbed Angular Correlations and Electron Channeling Solid State Physics Experiments at ISOLDE/CERN”, CERN/FP/23585/2011, from 1 June 2012 with the duration of 2 years, financed in €245,000.00 by the Portuguese Science Foundation, FCT.

##### **Finished**

###### Scientific Coordinator

- “Pulsed Power Advanced Applications”, n.º 1600 A2P2, financed in 900.685,28 €, support by FEDER, in co-promotion between ISEL and LUSOFORMA (Al molding industry), from the Lisbon Operational Program n.º 5/2007 (SI I&DT), National Strategic Reference Framework, QREN, from 27 August 2008 till 26 August 2012.
- “Target voltage modulator development for the on-line isotope separator at ISOLDE/CERN”, financed by the Portuguese Science Foundation, FCT:
  - CERN/FP/116370/2010, from 1 January 2011 till 31 December 2011, €27,000.00,
  - CERN/FP/109274/2009, from 1 January 2010 till 31 December 2010, €30,000.00,

## Curriculum Vitae – Luis Redondo

- CERN/FP/83497/2008, from 1 November 2008 till 31 October 2009, €40,000.00,
- POCI/FP/81932/2007, from 1 October 2007 till 30 September 2008, €30,000.00.

### Member of the Scientific Team

- “Perturbed Angular Correlations and Electron Channeling Solid State Physics Experiments at ISOLDE/CERN”, financed by the Portuguese Science Foundation, FCT:
  - CERN/FP/116320/2010 from 1 January 2011 till 31 March 2012, €120,000.00,
  - CERN/FP/109272/2009, from 1 January 2010 till 31 December 2010, €90,000.00,
  - CERN/FP/83506/2008, from 1 December 2008 till 30 November 2009, €80,000.00,
  - POCI/FP/81921/2007, from 1 November 2007 till 31 October 2008, €65,000.00.
- “Coupling catalysts and non-thermal plasma for low temperature decomposition of organic volatile compounds”, PTDC/EQU-EQU/65126/2006, from 1 December 2007 till 3 November 2010, financed in €127,200.00 by Portuguese Science Foundation, FCT.
- “50kV/1A Pulsed Generator for Plasma Based Ion Implantation”, POCTI/ESE/38963/2001, from 1 May 2002 till 1 May 2006, financed in €70,000.00 by Portuguese Science Foundation, FCT.

## Scientific Publications

### Patents

5 – Portuguese National Patent pending PT 106 971, 28/05/2013, “Bipolar and Unipolar Modular Generator with voltage droop compensation”. Inventor: Hiren Canacsinh, José Silva and Luis Redondo. Applicant: ISEL and IST.

4 – Portuguese National Patent pending PT 106 331, 23/05/2012, “High Voltage Monopolar and Bipolar Pulse Generator”. Inventor: Luis Redondo. Applicant: EPS  
Published in 225/2013 from 25/11/2013.

3 - Portuguese National Patent PT 104 646, 29/06/2009, “Pulsed Voltage Multiplier”. Inventor Luis M. S. Redondo. Applicant: EPS  
Published in 240/2009 from 14/12/2009.

2 - Portuguese National Patent PT 104 081, 30/05/2008, “Generic High Voltage Pulse Generator”. Inventor, José Silva; Luis Redondo; Hiren Canacsinh. Applicant: ISEL, IST  
Published in 85/2008 from 22/09/2008.

1 - Portuguese National Patent PT 103 150; 18/06/2004, “Solid-state high-voltage and high-frequency pulse generator capable of resetting pulse transformer”. Inventor: Luis Redondo, José Silva, Elmano Margato, Pedro Tavares. Applicant: ISEL, IST  
Published in 1/2/2006 from 13/12/2005.

### Book Chapters

- *Solid State Pulsed Power Electronics*  
Luis Redondo, Fernando A. Silva, in Muhammad Rashid et al, editors: Power Electronics Handbook 3ed, 2010, Butterworth-Hinemann Publishing, Elsevier, ISBN # 9780123820365, chapter 26, pp 669-710.



**Peer reviewed journals**

- 28 . *Comparison between monopolar and bipolar  $\mu$ s range pulsed electric fields in enhancement of apple juice extraction*  
P. S. Brito, H. Canacsinh, J. P. Mendes, L. M. Redondo, and M. T. Pereira  
IEEE Transactions on Plasma Science, Vol. 40, No. 10, October 2012, pp. 2348-2354.  
DOI: 10.1109/TPS.2012.2209444
- 27 . *Modeling of a Solid-State Bipolar Blumlein Generator for n Stages*  
J. P. M. Mendes, L. M. Redondo, H. Canacsinh, and José O. Rossi  
IEEE Transactions on Plasma Science, Vol. 40, No. 10, October 2012, pp. 2611-2617.  
DOI: 10.1109/TPS.2012.2199138
- 26 . *Marx type solid-state bipolar modulator topologies: performance comparison*  
H. Canacsinh, L. M. Redondo, and J. Fernando Silva  
IEEE Transactions on Plasma Science, Vol. 40, No. 10, October 2012, pp. 2603-2610.  
DOI: 10.1109/TPS.2012.2190944
- 25 . *New Technique for Uniform Voltage Sharing in Series Stacked Semiconductors*  
L. M. Redondo, H. Canacsinh and J. Fernando Silva  
IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 18, No. 4, August 2011, pp. 1130 - 1136.  
DOI: 10.1109/TDEI.2011.5976106
- 24 . *Solid-State Marx Modulator with Blumlein Stack for Bipolar Pulse Generation*  
J. P. M. Mendes, H. Canacsinh, L. M. Redondo and José O. Rossi  
IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 18, No. 4, August 2011, pp. 1199 - 1204.  
DOI: 10.1109/TDEI.2011.5976116
- 23 . *Mass spectrometry improvement on an high current ion implanter*  
J.G. Lopes, F.C. Alegria, L.M. Redondo, J. Rocha and E. Alves  
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Vol. 269, Issue 24, 15 December 2011, pp. 3222–3225.  
DOI:10.1016/j.nimb.2011.04.086
- 22 . *Characterization of nanostructured HfO<sub>2</sub> films using Perturbed Angular Correlation (PAC) technique*  
F. H. M. Cavalcante, M. R. Gomes, A. W. Carbonari, L. F. D. Pereira, D. A. Rossetto, M. S. Costa, L. M. Redondo, J. Mestnik-Filho, R. N. Saxena and J. C. Soares  
Hyperfine Interactions, 2010, Vol. 198, Issue 1-3, pp. 41-45  
DOI: 10.1007/s10751-010-0250-z
- 21 . *Nanostructured Zr/Hf/Zr multilayer studied by perturbed angular correlations technique*  
A. M. L. Lopes, M. R. Gomes, F. H. M. Cavalcante, L. M. Redondo, M. R. Silva, J. C. Soares  
Hyperfine Interactions, 2010, Vol. 198, Issue 1-3, pp. 35-39  
DOI: 10.1007/s10751-010-0225-0
- 20 . *A dc voltage multiplier circuit working as a high voltage pulse generator*  
L. M. Redondo  
IEEE Transactions on Plasma Science, Vol. 38, Oct. 2010, No. 10, pp. 2725-2729.  
DOI: 10.1109/TPS.2010.2050495
- 19 . *Solid-state Marx based two-switch voltage modulator for the On-Line Isotope Mass Separator accelerator at the European Organization for Nuclear Research*  
L.M. Redondo, J. Fernando Silva, H. Canacsinh, N. Ferrão, C. Mendes, R. Soares, J. Schipper and A. Fowler  
Review of Scientific Instruments 81, 7, pp. 074703 - 074703-6, Jul 2010.  
DOI: 10.1063/1.3461134
- 18 . *Computer control of a 3 MV Van De Graaff accelerator*  
J.G. Lopes, F.C. Alegria, L.M. Redondo, J. Rocha, E. Alves  
Metrology and Measurement Systems, Vol. 17, No. 3, 2010, M-355  
ISSN 0860-8229
- 17 . *Generalized Solid-state Marx Modulator Topology*

- L. M. Redondo, H. Canacsinh, J. Fernando Silva  
 IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 16, No. 4, 2009, pp. 1037-1042.  
 DOI: 10.1109/TDEI.2009.5211851
- 16 . *Repetitive High-Voltage Solid-State Marx Modulator Design for Various Load Conditions*  
L. M. Redondo, J. Fernando Silva  
 IEEE Transactions on Plasma Science, Vol. 37, No. 8, August 2009, pp. 1632-1637.  
 DOI: 10.1109/TPS.2009.2023221
- 15 . *Flyback versus Forward switching power supply topologies for unipolar pulsed power applications*  
L. M. Redondo, J. Fernando Silva  
 IEEE Transactions on Plasma Science, Vol. 37, No. 1, January 2009, pp. 171-178.  
 DOI: 10.1109/TPS.2008.2006056
- 14 . *High precision <sup>180</sup>Hf ion implantation using a High-Current Ion Implanter*  
L. M. Redondo, J. Rocha, J. C. Soares  
 Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Vol. 266, no. 16, Agosto 2008, pp. 3661-3666.  
 DOI: 10.1016/j.nimb.2008.05.016
- 13 . *A low-cost, accurate and non-intercepting continuous method for beam current measurements in a High-Current Ion Implanter*  
L. M. Redondo, J. Rocha, J. C. Soares  
 Nuclear Inst. and Methods in Physics Research B, vol. 265, no. 2, pp. 576-580, 2007.  
 DOI: 10.1016/j.nimb.2007.09.042
- 12 . *Pulse shape improvement in core-type high-voltage pulse transformers with auxiliary windings*  
L. M. Redondo, J. Fernando Silva, E. Margato  
 IEEE Transactions on Magnetics, Vol. 43, Issue 5, pp. 1973-1982, May 2007.  
 DOI: 10.1109/TMAG.2006.888744
- 11 . *Analysis of a modular generator for high-voltage, high-frequency pulsed applications, using low voltage semiconductors (<1kV) and series connected step-up (1:10) transformers*  
L. M. Redondo, J. Fernando Silva, E. Margato  
 Review of Scientific Instruments 78, 034702, 2007.  
 DOI:10.1063/1.2709743
- 10 . *Rise time reduction in high-voltage pulse transformers using auxiliary windings*  
L. M. Redondo, E. Margato, J. Fernando Silva  
 IEEE Transactions on Power Electronics, Vol. 17, No. 2, pp. 196-206 March 2002.
- 9 . *Progress on high-voltage pulse generators, using low voltage semiconductors (<1kV), designed for Plasma Immersion Ion Implantation (PIII).*  
L. M. Redondo, N. Pinhão, E. Margato, J. Fernando Silva  
 Surface and Coatings Technology, Vol. 156/1-3, pp. 61-65, 2002.
- 8 . *A new method to build a High Voltage Pulse Supply using only semiconductor switches for plasma immersion ion implantation.*  
L. M. Redondo, E. Margato, J. Fernando Silva  
 Surface and Coatings Technology, Vol. 136/1-3, pp. 51-54, 2001.
- 7 . *GMR in high fluence ion implanted granular thin films*  
 J. B. Sousa, M. M. Azevedo, M. S. Rogalski, Yu. G. Pogorelov, L. M. Redondo, C. M. de Jesus, J. G. Marques, M. F. da Silva, J. C. Soares, J. C. Ousset and E. Snoeck  
 Journal of Magnetism and Magnetic Materials, Vol. 196-197, pp. 13-17, 1 May 1999.
- 6 . *Ion implantation of microcrystalline silicon for low process temperature top gate thin film transistors*  
 V. Chu, H. Silva, L. M. Redondo, C. Jesus, M. F. Silva, J. C. Soares and J. P. Conde  
 Thin Solid Films, Vol. 337, No. 1-2, pp. 203-207, 11 January 1999.
- 5 . *Giant Magnetoresistance behaviour of granular Fe and Co Implanted Ag Thin Films*  
 J.C. Soares, L.M. Redondo, C.M. Jesus, J.G. Marques, M.F. Silva, M.M.P. Azevedo, J.A. Mendes, M.S. Rogalski, J.B. Sousa  
 J. Vac. Sci. & Tech. A, Vol. 16, No. 3, pp. 1812-1816, May/June 1998.
- 4 . *Analysis of the Elements Sputtered during the Lanthanum Implantation of Stainless Steels*

F. J. Ager, M. A. Respaldiza, A. Paúl, J. A. Odriozola, J. M. Lobato, M. F. da Silva, L. M. Redondo and J. C. Soares

Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Vol. 139, No. 1-4, pp. 344-349, April 1998.

- 3** . *High Flux  $^{56}\text{Fe}^+$  and  $^{57}\text{Fe}^+$  Implantations for GMR Applications*  
L. M. Redondo, C. M. de Jesus, J. G. Marques, M. F. da Silva, J. C. Soares, M. M. Pereira de Azevedo, J. A. Mendes, M. S. Rogalski and J. B. Sousa

Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Vol. 139, No. 1-4, pp. 350-354, April 1998.

- 2** . *Lattice site location and annealing behaviour of W implanted  $\text{TiO}_2$*   
 E. Alves, L. M. Redondo, R. Fromknecht, O. Meyer and R. C. Da Silva

Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Vol. 136-138, pp. 442-446, March 1998.

- 1** . *Magnetization and magnetoresistance in Fe-ion-implanted Cu and Ag thin films*  
 M. M. Pereira de Azevedo, J. B. Sousa, J. A. Mendes, B. G. Almeida, M. S. Rogalski, Yu. G. Pogorelov, I. Bibicu, L. M. Redondo, M. F. da Silva, C. M. Jesus, J. G. Marques and J. C. Soares

Journal of Magnetism and Mag. Mat., Vol. 173, No. 3, pp. 230-240, September 1997.

### Peer reviewed conference proceedings

- 32** . *Industrial processing of red and white grapes assisted by Pulsed Electric Fields*  
L. M. Redondo, J. Andrade, J. O. Santos, F. Barros and M. T. Pereira  
 IEEE 2012 International Power Modulator and High Voltage Conference, San Diego, CA, US, 3 – 7 Jun 2012, in press.

- 31** . *Modulator for Multilevel High-Voltage Pulse Generation*  
 L. Lamy Rocha, J. Fernando Silva, and L. M. Redondo  
 IEEE 2012 International Power Modulator and High Voltage Conference, San Diego, CA, US, 3 – 7 Jun 2012, in press.

- 30** . *Pulsed electric field pre-treatment for apple juice extraction: Evaluation of monopolar and bipolar pulses effects*  
 Paula S. Brito, Hiren Canacsinh, João Mendes, L. M. Redondo, Marcos T. Pereira  
 IEEE International Power Modulator and High Voltage Conference, San Diego, CA, US, 3 – 7 Jun 2012, in press.

- 29** . *Grid Integration of Offshore Wind Farms Using Modular Marx Multilevel Converters*  
 Luís Encarnação, José Fernando Silva, Sónia Ferreira Pinto, Luis M. Redondo  
 3<sup>rd</sup> Doctoral Conference on Computing Electrical and Industrial Systems, 27-29 February 2012, Caparica, Lisbon, Portugal, pp. 311-320.

- 28** . *Modeling of n-Stage Blumlein Stacked Lines for Bipolar Pulse Generation*  
 J. P. M. Mendes, Luis M. Redondo, H. Canacsinh, M. Vieira, José O. Rossi  
 3<sup>rd</sup> Doctoral Conference on Computing Electrical and Industrial Systems, 27-29 February 2012, Caparica, Lisbon, Portugal, pp. 395-402.

- 27** . *Solid-State Bipolar Marx Converter with Output Transformer and Energy Recovery*  
 H. Canacsinh, José Fernando Silva, Sónia Ferreira Pinto, Luis M. Redondo, João Santana  
 3<sup>rd</sup> Doctoral Conference on Computing Electrical and Industrial Systems, 27-29 February 2012, Caparica, Lisbon, Portugal, pp. 403-410.

- 26** . *Solid-State Bipolar Marx Generator with Voltage Droop Compensation*  
 H. Canacsinh, José Fernando Silva, Sónia Ferreira Pinto, Luis M. Redondo  
 3<sup>rd</sup> Doctoral Conference on Computing Electrical and Industrial Systems, 27-29 February 2012, Caparica, Lisbon, Portugal, pp. 411-418.

- 25** . *Modeling of a solid-state Marx generator with parasitic capacitances for optimization studies*  
 H. Canacsinh, L. M. Redondo, F. Fernando Silva and E. Schamiloglu  
 18<sup>th</sup> IEEE International Pulsed Power Conference, Chicago, Illinois, US, 19 – 23 Jun 2011, pp. 1422-1427, 2011.

- DOI: 10.1109/PPC.2011.6191627
- 24** . *Magnetic Forming and Cutting of Thin Al Sheets*  
M.T.Pereira, T.Jorge, H. Canacsinh, L. M. Redondo  
18<sup>th</sup> IEEE International Pulsed Power Conference, Chicago, Illinois, US, 19 – 23 Jun 2011, pp. 426-430, 2011.  
DOI: 10.1109/PPC.2011.6191458
- 23** . *Solid-State Marx Type Modulator for Plasma Based Ion Implantation Applications*  
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