CV of Michael Pissas

Address-studies-career

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Studies: Ph.D. in Physics (Superconductivity) from the School of Applied Mathematical and Physical Sciences of the National Technical University of Athens (1992), DOI 10.12681/eadd/1925. Diploma in Mining and Metallurgical Engineering from the School of Mining and Metallurgical Engineering of the National Technical University of Athens (Graduated first in class 8.75) (1997).

Career: Director of Research (2005)-, Senior Researcher (1998-2004) IMS, Assistant Researcher (1995-1997), Visiting Researcher at Centre de Recherches sur les Tres Basses Temperatures, CNRS, Grenoble, France (1-7-96 - 31-7-97). Research Associate (1993-1995) IMS, Military service: Greek Navy (1992).

Research interests

His research interests include superconductivity, magnetism, and materials science. He is responsible for research on superconductivity and magnetism in mixed transition-metal/rare-earth oxides. He is also the head of the magnetic and physical properties laboratory, equipped with a SQUID magnetometer and a Physical Properties Measuring System (PPMS).

I study key current problems in solid-state and molecular physics. The materials of his interest are transition metal perovskite-based oxides, magnetoelectric materials, ferromagnetic/antiferromagnetic oxides, High-Tc superconductors, MgB2, iron pnictides/selinades, lithium-based oxides, magnetic nanoparticles, and magnetic inorganic molecules.

My research focuses on high-temperature superconductivity, the mixed-valence problem, magnetoresistive materials, metal-insulator transitions, charge-ordering phenomena, electronic phase separation, charge- and spin-density waves, electromagnetic wave propagation in magnetized ferrites, and molecular magnetism. He investigates the above systems using global and local magnetic measurements, X-ray and neutron diffraction data, Mossbauer, NMR, and EPR spectroscopies.

In addition, significant research effort has been devoted to vortex dynamics and the vortex-matter phase diagram of type-II superconductors. The magnetic properties of the superconductors are studied using several experimental techniques, including local magnetization measurements, ac/dc susceptibility measurements with microscopic Hall sensors and bulk probes, and SQUID-based bulk magnetic measurements.

I have also worked in the field of non-destructive evaluation (magnetism-based crack detection methods), and the magnetic characterization of industrial magnetic steels and pharmaceutical compounds containing magnetic phases.

Honors and Awards:

Award from the Technical Chamber of Greece 1982-1983, Scholarship from State Scholarship Foundation 1983-1984, Scholarship from State Scholarship Foundation 1984-1985, Scholarship from State Scholarship Foundation 1985-1986, Medal *"G. Papastamatiou"* from Board of Directors of IGME since graduated first from department of Metallurgy Engineer of National Technical University of Athens., Fellowship from Greek Atomic Energy Commission (1987-1991), Award in VI Hellenic Conference on Solid State Physics.

Educational activities:

M. Pissas dedicates substantial effort to educational activities. He serves on the administrative committee of the graduate program "Physics and Technological Applications," jointly organized by the School of Applied Mathematical and Physical Sciences at the National Technical University of Athens and NCSR Demokritos. He teaches the mandatory one-semester course "Electromagnetism-I" (https://metaptychiako-fysikis.physics.ntua.gr/mathimata/) and delivers an experimental lesson in the graduate course "Experimental Methods" (optional).

Additionally, M. Pissas organizes and teaches several chapters in the following courses: a) Quantum Devices (mandatory), b) Qubit Devices (mandatory), c) Quantum Solid State (optional), and d) Nanoelectronics (optional), all part of the M.Sc. in Quantum Computing and Quantum Technologies at Democritus University of Thrace, Department of Electrical & Computer Engineering, and the National Centre for Scientific Research "Demokritos" (https://quantum.ee.duth.gr/).

M. Pissas also contributes to the undergraduate course "Methods of Material Characterization" (optional) at the School of Applied Mathematical and Physical Sciences, National Technical University of Athens, and INN Demokritos. He is responsible for the experimental lesson on magnetic measurements.

Several master's, diploma, and Ph.D. theses have been completed under the supervision of Dr. M. Pissas (see list below).

Master's diploma thesis

1. **Konstandia Kalantzi**, Numerical calculation of the complex magnetic susceptibility of type-II superconductors in disk-shaped specimens, Supervisor Michael Pissas, completed 2024.

2. **Moraitis Kostas**, Theoretical Modeling of a second derivative magnetometer and comparison with experimental data of the superconductor YBa2Cu3O7−δ, Master's thesis for MSc Program Microsystems and Nanodevices (completed September 2023, Supervisor M. Pissas and D. Stamopoulos)

3. **Korakas Konstantinos** Magnetic levitation of YBa2Cu3O7 superconductor: experimental realization and mathematical modeling based on the Meissner state member of the examination committee (12/7/23).

4. **Poulis Thomas**, "Theoretical simulation of the electromagnetic field penetration in type II superconductors." Presented at The School of Applied Mathematical and Physics Science, NTUA, Research Supervisor at NCSR: Michael Pissas, completed 2021.

5. **Baskourelos Kostas**, "Solution of the wave propagation in waveguides with finite element method", Presented at The School of Applied Mathematical and Physics Science, NTUA, Research Supervisor at NCSR: Michael Pissas, completed 2020.

6. **Bazini Maria**, "Correlation of the mechanical stress concentration with the remanence magnetic field at the surface of magnetic steels," presented at The School of Applied Mathematical and Physics Science, NTUA, Research Supervisor at NCSR: Michael Pissas, completed in 2020

7. **Maniatis Dimitris**, Penetration dynamics of the magnetic field in a superconducting slab with non-linear electric field/current density relation, School of Applied Mathematical and Physical Sciences of National Technical University of Athens and NCSR Demokritos, Research Supervisor at NCSR: M. Pissas, completed in 2019

8. **Sotiriou Sotiris** Design and construction of a device for the characterization of Soft Magnetic Materials Master program in Physics and Technological applications, School of Applied Mathematical and Physical

Sciences, National Technical University of Athens, Research Supervisor at NCSR: M. Pissas, completed in 2017

9. **Lili Aikaterini-Anna** "Crack detection in non-magnetic metals using GMR sensors", Master program in Physics and Technological applications, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Research Supervisor at NCSR: M. Pissas, completed in 2016

10. **Amvrazi Ioanna**, Dissertation Title: Study of angular dependence of the critical current peak effect for MgB2 superconductor, Department of Physics, University of Athens, Research Supervisor at NCSR: M. Pissas, completed in 2014,

11. **Kaliakatsou Ioanna**, Dissertation Title: Theoretical and experimental study of the magnetic field above cracks in magnetized ferromagnetic materials", Department of Physics, University of Athens, Research Supervisor at NCSR: M. Pissas, completed in 2014.

12. **Theodorikakos Theoharis**, "Theoretical and experimental study of the defects' stray magnetic field in rail tracks", Master program in Physics and Technological Applications, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Research Supervisor at NCSR: M. Pissas, University of Athens, completed in 2012.,

13. **Papageorgiou George** "Vortex matter properties in single crystal YBa2Cu3O6+x near the antiferromagnetic superconducting ground state", Master program in Physics", Department of Physics, University of Athens, Research Supervisor at NCSR: M. Pissas, completed in 2010.

Degree Diploma projects

1) **Dimitriadis Anastasis** "Electromagnetic characterization of small-scale wind turbine with double side topology", Department of Physics, University of Athens, Supervisor M. Pissas, completed in 2021.
2) **Hotzopoulos Alexandros** «Crack detection in magnetic steels using magnetooptic sensors», School of Mining and Metallurgical Engineering, National Technical University of Athens, Research Supervisor at NCSR "D": M. Pissas, completed in 2016.
3) **Brahou Athanasia** "Study of vortex matter phase diagram of YBa2Cu3O7 superconductor using ac susceptibility measurements in tilted magnetic field", School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Research Supervisor at NCSR "D": M. Pissas, completed in 2015.
4) **Tsiachristos Ilias** "Estimation of the permittivity and permeability magnetoelectric materials using scattering parameters", School of Electrical and Computer Engineering, National Technical University of Athens, Research Supervisor at NCSR "D": M. Pissas, completed in 2014
5) **Anastasiou Athanasios** "The design and construction of a vibrating sample magnetometer", School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Research Supervisor at NCSR "D": M. Pissas, completed in 2012.
6) **Panos Kostas** Study of hybrid superconductors MgB2 /Bi1.7Pb0.3Sr2Ca2Cu3O10 and MgB2/YBa2Cu3O7, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Research Supervisor at NCSR "D": M. Pissas, completed in 2010.

Practical Courses (internship)

1. **Sirigou Kassiani**, Preparation and characterization of Ni-Fe Alloy with arc melting, School of Mining and Metallurgical Engineering, National Technical University of Athens. Supervisor M. Pissas (2025)

2. **Konstantoulas Eudoxia,** Preparation and characterization of $LiMn_2O_4$, School of Mining and Metallurgical Engineering, National Technical University of Athens. Supervisor M. Pissas (2023)

3. **Saltas Ioannis**, Preparation of magnetic materials with metallurgical methods, School of Mining and Metallurgical Engineering, National Technical University of Athens. Supervisor M. Pissas (2023)

4. **Tzompanoglou Vangelis**, Preparation and characterization of Li transition metal oxides, Supervisor M. Pissas (2022)

5. **Fountas Kanellos** Preparation and characterization of Nb-Ti superconductor alloys with arc melting, Supervisor M. Pissas (2022)

6. **Magafas Ioannis-Polichronakos** Simulation of the flux lines penetration in type II superconductor (Campbell model)", School of Applied Mathematical and Physical Sciences of National Technical University of Athens, Supervisor M. Pissas (completed 2021)

7. **Stergiou Vasiliki,** "Simulation and experimental study of the levitation of a type II superconductor above a permanent magnet", School of Applied Mathematical and Physical Sciences of National Technical University of Athens, Supervisor M. Pissas (completed 2021)

8. **Palioveos Apostolos** "Labview code for interfacing of lock-in amplifier with a vibrating sample magnetometer," Department of Physics, University of Athens, Supervisor M. Pissas (2018).

9. **Rizos Spiros** "Preparation and characterization of YBa2Cu3O7 superconductor in toroidal form", School of Applied Mathematical and Physical Sciences of National Technical University of Athens, Supervisor M. Pissas (2017)

10. **Kosmidi Dimitra**, "Study of the stray magnetic field above a crack in ferromagnetic steel," School of Mining and Metallurgical Engineering, National Technical University of Athens. Supervisor M. Pissas (2017)

11. **Katsadoros V.**," Construction and evaluation of an eddy current probe for nondestructive evaluation based on GMR sensors", Department of Physics, University of Athens, Supervisor M. Pissas. (2013)

12. **Selianitis Dimitrios** Preparation, magnetic and crystallographic characterization of YBa2Cu3O7 superconductor, Department of Materials Science, University of Patras, Supervisor M. Pissas (2016).

13. **Tzavala Marilena**, "The analysis of the magnetic levitation of a superconductor above a permanent magnet", School of Applied Mathematical and Physics Science, NTUA, Supervisor M. Pissas (2012).

14. **Hotzopoulos Alexandros,** School of Mining and Metallurgical Engineering, National Technical University of Athens. Supervisor M. Pissas (2013).

15. **Bourtsalas Vassilios,** Characterization of magnetic materials using a VSM magnetometer, Department of Physics, University of Athens, Supervisor M. Pissas, (2011)

PhD thesis and PhD Dissertations

1) **Panagopoulos Vassilis,** "Magnetic and crystal structure properties of lithium-based mixed oxides", School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Supervisor Michael Pissas, completed 2023.

2) **Varouti Irini,** "Preparation and characterization of ferrites for microwave applications", School of Mining and Metallurgical Engineering, National Technical University of Athens. Supervisor M. Pissas, starting in 2013

3) **Zeimbekis E**., Superconductor/piezoelectric artificial structures: physical mechanisms and possible applications", School of Applied Mathematical and Physical Sciences, National Technical University of Athens, (Michael Pissas, member of the advisory examination committee), completed in 2017

4) **Aristomenopoulou I**., "Tailoring the transport properties of a superconductor by means of ferromagnetic templates: Focusing on planar FM/SC/Fm nanostructures", School of Applied Mathematical and Physical Sciences, National Technical University of Athens, (Michael Pissas, member of the advisory and examination committee), completed in 2016

5) **Dimosthenis Stamopoulos** (supervisor Michael Pissas)

6) **Spiros Koutandos** (supervisor Michael Pissas)

7) **Mirto Holiastou** (co- supervising with D. Niarchos).

8) **Hlias Moraitakis** (co-supervising with D. Niarchos)

Monographs book chapters

1. Low-Dimensional Solids Wiley (ISBN 978-0470-99751-2), chapter 5 Magnesium diboride MgB2: A simple compound with important properties. M. Pissas
2. Leading edge superconductivity research developments (ISBN 978-160456-017-6), Chapter 1 Exchange biased and plain superconducting –ferromagnetic layered hybrids and their possible applications, D. Stamopoulos, E. Manios, and M. Pissas.)
3. Exchange biased and plain superconducting ferromagnetic layered hybrids (ISBN-978-1-60692-643-7) D. Stamopoulos, E. Manios, and M. Pissas.
4. Magnesium Diboride MgB_2 superconductor research (ISBN-978-1-60456-566-9) Chapter 3 Surveying the vortex matter phase diagram for pristine MgB_2 and atomic substituted $Mg_{1-x}Al_xB_2$ and $MgB_{2-x}C_x$ single crystals. D. Stamopoulos and M. Pissas.
5. Textbook: Introduction to superconductivity, Greek Open University.
6. "**Unique Magnetic Properties**" Michael Pissas, Vassilis Psycharis, Catherine Raptopoulou and Yiannis Sanakis https://doi.org/10.1002/9783527809929.ch2 in "**Single-Molecule Magnets: Molecular Architectures and Building Blocks for Spintronics"**, Editor(s): Małgorzata Hołyńska, First published:12 October 2018 Online, ISBN:9783527809929,
7. **Other Techniques to Study Single-Molecule Magnets** (Pages: 173-243) Yiannis Sanakis Vassilis Psycharis Michael Pissas Catherine Raptopoulou, https://doi.org/10.1002/9783527809929.ch5, in **"Single-Molecule Magnets: Molecular Architectures and Building Blocks for Spintronics"**, Editor(s): Małgorzata Hołyńska First published:12 October 2018, Online ISBN:9783527809929,
8. Varouti E., Manios E., Tsiachristos I., Alexandridis A., Pissas M. (2020) Microwave Characterization of $Y_3Fe_5O_{12}$ Ferrite Under a dc-Magnetic Field. In: Kaidatzis A., Sidorenko S., Vladymyrskyi I., Niarchos D. (eds) Modern Magnetic and Spintronic Materials. NATO Science for Peace and Security Series B: Physics and Biophysics. Springer, Dordrecht. https://doi.org/10.1007/978-94-024-2034-0_2

Invited talks/oral presentations

1 **Crystallographic and magnetic properties of $LiFeO_2$ and $LiFe_{5-x}Mn_xO_8$ compounds",** Vassilis Panagopoulos, Vassilis Psycharis, Yiannis Sanakis, and Michael Pissas, 2023 Joint CTMNM/NAGC Conference 8-12 May 2023, Anargyrios and Korgialenios School of Spetses, Spetses, **Oral presentation**

2 **"Magnetic and Superconducting materials: Theory and Applications" Part A,** European School of Antennas 2019, "ADVANCED MATERIALS FOR ANTENNAS AND MICROWAVE DEVICES", (LBORO-NCSRD) LOUGHBOROUGH, June 10-14 2019. (oral 2h presentation)

3 **"Magneto-dielectric materials for microwave applications, Part B,** European School of Antennas 2019, "ADVANCED MATERIALS FOR ANTENNAS AND MICROWAVE DEVICES", (LBORO-NCSRD) LOUGHBOROUGH, June 10-14 2019. (oral 2h presentation)

4 "**Magnetoelectric materials**", Advanced Training Course "Spintronics Radar Detectors" , Advanced Training Course "Spintronics Radar Detectors", Athens, Greece 14-18 October 2019 (oral 2h presentation)

5 "**Magnetic materials for microwave engineering**", Advanced Training Course "Spintronics Radar Detectors" , Athens, Greece, 14-18 October 2019. (oral 2h presentation)

6 **A specific heat study of $La_{1-x}Ca_xMnO_3$ (0≤ x ≤1)),** 9th Workshop on Current Trends in Molecular and Nanoscale Magnetism, May 27-31, 2019, Rhodos (oral).

7 **Slow magnetic relaxation in ferrimagnetic $Y_3Fe_5O_{12}$,** 8th North America-Greece-Cyprus Workshop on Paramagnetic Materials, 8th NAGC 2018 , Sparta, Greece 18-22 June 2018 (oral)

8 **AC Response of the $Bi_2Sr_2CaCu_2O_8$ Superconductor in the Liquid Abrikosov State**", 5th HELLENIC FORUM FOR SCIENCE, TECHNOLOGY & INNOVATION 6/7/2017 Forum Demokritos

9 **Properties of magnetic materials**, COST Action TD 1402: Multifunctional Nanoparticles for Magnetic Hyperthermia and Indirect Radiation Therapy (RADIOMAG), Training School 21-23/11/2016 Athens, (oral presentation).

10 **Ac susceptibility measurements in $Bi_2Sr_2CaCu_2O_8$ superconductor, 6th Workshop on** "Current trends in Molecular and Nanoscale Magnetism" Pylos, Greece 9-13 October 2016 (oral presentation)

11 **Magnetic and Superconducting materials: Theory and Applications,** European School of Antennas 2016 "ADVANCED MATERIALS FOR ANTENNAS" (LBORO-NCSRD) ATHENS, June 20-24 2016 (oral presentation).

12 **Magneto-dielectric materials for microwave applications,** European School of Antennas 2016 "ADVANCED MATERIALS FOR ANTENNAS" (LBORO-NCSRD) ATHENS, June 20-24 2016 (oral presentation).

13 **Magnetic materials for microwave and antenna applications** Workshop Magnetic Materials in Tomorrow's Word Demokritos (12/7/2016) (oral presentation).

14 **Vortex Matter Properties of Ba1-xKxFe2As2 Superconductor Probed by ac Susceptibility Measurements.** Sixth North America -Greece-Cyprus Workshop on Paramagnetic Materials (NAGC 2015) 4-6-2015 Athens (oral presentation).

15 **Surface cracks detection in ferromagnetic specimens using GMR sensors** 4th International Conference of Engineering Against Failure (ICEAF IV) 24-26 June 2015, Skiathos, Greece (oral presentation).

16 **Study of $Ba_{1-x}K_xFe_2As_2$ superconductor with ac susceptibility measurements** (invited talk) M. Pissas, Greek Ceramic Society NTUA 3/4/2014.

17 **Complex Electric Permittivity and Magnetic Permeability of Ferrites Calculated from Scattering Parameters** European Conference on Antennas and Propagation 2014, The 8th European Conference on Antennas and Propagation, to be held at the World Forum in The Hague, The Netherlands, on 6-11 APRIL 2014 (EUCAP 2014) (invited talk).

18 **Estimation Of Permeability Tensor And Dielectric Permittivity Of Ferrites Using A Wave Guide Method Under A DC Magnetic Field** JEMS Joint European Magnetic Symposia 2013 25-30 August 2013 Rhodos Greece (oral presentation).

19 **Angular dependence of the peak effect in $MgB_{2-x}C_x$,** *Eighth International Conference in School Format on* Vortex Matter in Nanostructured Superconductors, 12-26 September 2013, Rhodes, Greece (invited talk)

20 M. Pissas, **Peak effect in Ba1-xKxFe2As2 superconductor**, XXVIII Panhellenic Conference on Solid State Physics & Materials Science, 23-26 Sep 2012.

21 **A neutron diffraction study of $TbMn_{1-x}Fe_xO_3$ compound**, II workshop on the Physics of complex oxides 1-5 October 2012 Mallorca Spain.

22 Panhellenic Conference on Solid State Physics & Materials Science, Ioannina 29-29 September 2010, "**A neutron diffraction and magnetization study of $TbMn_{1-x}Fe_xO_3$**. (oral presentation)

23 Workshop «Electroceramics and Applications» 29/9/2010, **A magnetization and Moessbauer study of $NdFeAsO_{0.82}F_{0.18}$ superconductor**

24 **Charge and spin density waves or solid solution phases In $La_{1-x}Ca_xMnO_3$ (0.5<x<0.85),** Workshop on the Physics of complex oxides Santorini Greece 14-17/6/2010.

25 Second COMEPHS workshop on phase separation in electronics systems Nafplion Greece September 30 –October 4 2008.

26 Workshop on "Current trends in nanoscopic and mesoscopic magnetism" 1-5 September 2008, Delphi, Greece.

27 Second North America-Greece-Cyprus Workshop on paramagnetic Materials, Syros, Greece 10-21 June 2007.

28 First CoMePhS Workshop on PHASE SEPARATION IN ELECTRONIC SYSTEMS, Crete - Greece, October 29 - November 4, 2006.

29 Phase diagram of $La_{1-x}Ca_xMnO_3$ compound for 0<x<1, Workshop on Self-Organized Strongly Correlated Electron Systems in Santorini, Greece, 27-30 August 2003.

30 **Chemical and electronic phase separation in $La_{1-x}Ca_xMnO_3$ (0<x<1**), National technical University of Athens (11/06/03).

Participation in funded Research Projects

- **Detection, Evaluation and Total Control of RCF in Rails- DECORAIL**" Synergasia". Budget 500 kEuro (2012-2015), Coordinator STASI Corporation. The contribution of our team is the design and construction of an instrument for RCF crack detection by measuring the stray magnetic field above a crack in ferromagnetic specimens.
- **THALIS PROJECT: MAGnetoELectric materials in reconfigurabLe Antennas (MAGELLAN)** Budget 500 kEuro, Coordinator A. Alexandrides, Starting Date 1/1/11 Ending date 31/12/15. M. Pissas is responsible for the effort to develop novel magnetic materials and their characterization.
- **THALIS PROJECT:POLYNUCLEAR TRANSITION METAL COMPLEXES: Development of Synthetic Strategies, Reactivity and Applications in Magnetic and Catalytic Materials (POLYMAGCAT)** Duration: 3 and ½ years (42 months), Coordinator Spyros P. Perlepes. Starting Date 1/1/11 Ending date 31/12/15. M. Pissas is responsible for the dc and ac magnetic measurements.
- **Combining innovative portable VISUAL, ACOUSTIC, MAGNETIC, and NMR methods, with in-situ CHEMICAL diagnostic tools for effective failure assessment and maintenance strategy of RAIL and subway systems,** Source of funding EU, Budget 1000 kEuro, Coordinator NDTech, Starting Date 1/1/11-End Date 31/12/12. M. Pissas is responsible for the design and construction of a crack detection system that measures the stray magnetic field produced above a crack in a magnetized rail steel track.
- **Fusion Materials Technology** I participate in materials research and development for fusion applications within the framework of the European Fusion Development Agreement (EFDA), collaborating with the Institute of Nuclear Technology of NCSR Demokritos. Budget 40 kEuro, Starting Date 1/1/10-End Date 31/12/12. M. Pissas is responsible for magnetic, magnetoresistance and specific heat measurements in Fe-Cr alloys.
- **Development of HTc and low Tc hybrid superconductors for DEMO,** Fusion emerging Technologies, Source of funding EU, Budget 40 kEυρώ, Coordinator M. Pissas, Starting date 1/6/08, End Date 31/12/10. M. Pissas supervised the effort to fabricate hybrid superconductors consisting of cuprate and MgB_2 superconductors.
- **Novel Metamaterials for Patch Antennas Applications,** Source of funding ESA, Budget 100 kEυρώ, Starting Date 1/1/08, Ending date-31/6/09. M. Pissas supervised the effort to prepare and characterize novel ferrimagnetic materials that produce a novel patch antenna.
- **Magnetic refrigerator based on manganese perovskites JOINT RESEARCH AND TECHNOLOGY PROGRAMMES 2005 – 2007**, Budget 10 kEuro, M. Pissas, Starting Date 10/11/07, Ending date 31/3/08. M. Pissas supervised the effort to produce manganates appropriate for magnetic cooling.
- **Single crystal growth of high Tc superconductors, optical properties, and vortex matter properties** (PENED 99, Budget ς 49.000.000 GDR, Duration 18 months (1-1-00-31-6-01), coordinator M. Pissas.
- **Filter fabrication for wireless communications from high Tc superconductor and photonic crystals** (EPET II, Budget 50.000.000 GDR, Duration 18 μήνες, (1-9-99), coordinator M. Pissas
- **Coushes minces supraconductrices $YBa_2Cu_3O_7$ de grande surface pour application microondes e&t.** Greek-French bilateral program PLATON-97038, 1997-1998. Budget 10.000.000 GDR, Coordinator M. Pissas.
- **Single crystal growth and vortex matter diagram of $HgBa_2CuO_{4+\delta}$ superconductor.** (DIMOEREVNA 99, Budget 4.000.000 GDR., Duration 24 months, (1-1-99-31-12-2000), Coordinator M. Pissas.

- **Preparation and application of high Tc superconductors** (EPET ’95 Budget 150.k ECU, Coordinator D. Niarchos.
- **Vortex dynamics and critical currents in detwinned $YBa_2Cu_3O_7$ single crystals. Collaborative** NATO Research Grant 217000BF (HTECH.CRG961402). Coordinator M. Pissas.
- **The film of high T_c superconductor growth and characterization at microwave frequencies**.(B/E-CT91-472 Coordinator D. Niarchos.
- **Preparation and study of high Tc-superconductors,** (89EK19), Budget Coordinator D. Niarchos
- **The influence of the local structure on the superconducting properties for samples in the $YBa_2Cu_3O_7$ and related systems.** CHRX-CT93-0116 DG DSCD, Coordinator D. Niarchos
- **Ag-sheathed Bi-Pb-Sr-Ca-Cu-O superconducting tapes with high critical current density**, NATO LINKAGE GRANT HTECH.LG 961393, USD $ 25.000. Coordinator G. Kallias
- **Study of the doping mechanism of $Bi_2Sr_2Ca_2Cu_3O_{10+\delta}$ (2233) superconductor and wires fabriacation,** Budget 8.000.000 MGR. PENED 96-97, Coordinator D. Niarchos.

Conference / Workshop Organization

- Pissas M. Organizing Committee of 29o Panhellenic Conferences on Solid State Physics and Materials Science, 22-25 September 2013
- Pissas M. and Stamopoulos D., Symposia Chairman’s of Joint European Magnetic Symposia, 20-25 August (2013), Rhodes, Greece

List of publications

1 **Preparation of the 110K high Tc superconductor $Bi_2Sr_2Ca_2Cu_3O_y$ by Pb and Sb substitution**. M. Pissas, D. Niarchos, PHYSICA C, **159** (1989) 643.

2 **The optimum percentage of Pb and the appropriate thermal procedure for the preparation of the 110K $Bi_{2-x}Pb_xSr_2Ca_2Cu_3O_y$ superconductor**. M. Pissas, D. Niarchos, C. Christides, M. Anagnostou, Supercond. Sci. Technol., **3** (1990) 128.

3 **Mossbauer studies of $Bi_2Sr_4Fe_3O_{12+x}$ isostructural with the $Bi_2Sr_2Ca_2Cu_3O_{10+x}$ 110K superconductor**. M. Pissas, V. Papaefthymiou, A. Simopoulos, A. Kostikas and D. Niarchos Sol. State Com. **73** (1990) 767.

4 **Mossbauer studies of the system $Bi_2Sr_{1+n}Fe_nO_x$ (n=2,3) isostructural with the high Tc superconductors $Bi_2Sr_2Ca_{n-1}Cu_nO_x$ (n=2,3).** M. Pissas, A. Kostikas, D. Niarchos, A. Simopoulos, J. of the Less-Com. Met., **164** (1990) 581.

5 **Mossbauer studies of the series $Bi_{2-x}Pb_xSr_2Bi_{n-1}Fe_nO_y$ for x=0.5, 1 and n=2,3.** M. Pissas, A. Simopoulos, A. Kostikas and D. Niarchos PHYSICA C **176** (1991) 227.

6 **Structural and Mossbauer studies in $REBaCuFeO_{5+x}$ compounds**. M. Pissas, C. Mitros, G. Kallias, V. Psycharis, D. Niarchos, A. Simopoulos, A. Kostikas, C. Christides, and K. Prassides, PHYSICA C, **185** (1991) 553.

7 **Synthesis, thermogravimetric, and 57Fe Mossbauer studies of the oxygen-deficient perovskite $REBaCuFeO_{5+x}$ series (RE=Y, Nd, Sm, Gd, Dy, Tm, Lu).** M. Pissas, C. Mitros, G. Kallias, V. Psycharis, A. Simopoulos, A. Kostikas, D. Niarchos. PHYSICA C **192** (1992) 35.

8 **Mossbauer and X-ray powder diffraction study of the compound $LuBaCuFeO_{5+x}$.**M. Pissas, V. Psycharis, C. Mitros, G. Kallias, D. Niarchos, A. Simopoulos, A. Kostikas. Journal of Magnetism and Magnetic Materials **104** (1992) 571.

9 **Quantitative analysis and studies of the evolution of the transformation from $Bi_2Sr_2CaCu_2O_{8+\delta}$ to $Bi_2Sr_2Ca_2Cu_3O_{10+\delta}$ with Rietveld method.** M. Pissas, V. Psycharis, D. Niarchos. PHYSICA C **185** (1991) 485.

10 **Crystallographic, thermogravimetric and magnetization study of the $YBa_2Cu_{3-x}Fe_xO_y$ superconductor (0<x<0.2, 6<y<7).** G. Kallias, V. Psycharis, D. Niarchos M. Pissas. PHYSICA C **174** (1991) 316.

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