

Dr. Susanna Guiducci - Curriculum Vitae

I am currently INFN team leader of ARIES (EU project 730871), a four years project on “Accelerator Research and Innovation for European Science and Society”, which started in May 2017.

I got my degree in Physics at Rome University “la Sapienza” in 1975.

I have been a staff scientist at the LNF Frascati, Italy, since 1977 in the Accelerator Division, Accelerator Physics Group. I have been working on optics and beam physics for synchrotron light sources and electron positron colliders. I participated at several different Synchrotron Light Source projects as European Synchrotron Radiation Project for ESRF, Grenoble, France and Elettra SLS in Trieste, Italy. I had a leading role in the design commissioning and operation of the DAΦNE Φ -factory, the 0.5 GeV LNF electron-positron collider [1].

As a member of the International Collaboration TESLA, I coordinated the Damping Ring work for the TDR of the TESLA Superconducting Electron-Positron Linear Collider [2]

I was one of the worldwide selected members of the ILC Global Design Effort (GDE) from 2005 to 2012. Internally to the GDE, I had the responsibility of Accelerator System Leader for the two Damping Rings. I was the Group Leader of the International Linear Collider (ILC) Accelerator Activities at the Istituto Nazionale di Fisica Nucleare (INFN).

In the past years I was the INFN scientific leader responsible for two large EU Projects dedicated to accelerator research and development: CARE (project N. RII3-CT-2003-506395) [3], from 2004 to 2008, and EuCARD (grant N. 227579) [4], from 2009 to 2013. For the Project EUROTEV “European Design Study Towards a Global TeV Linear Collider” (grant N. 011899, years 2005 – 2008) [5], I was both the INFN scientific leader and the coordinator of the WP3 Work package “Damping Rings”. From 2013 to 2017 I was one of the Coordinators of the WP6 Work package “Low Emittance Rings” within the European Project EuCARD-2 “Enhanced European Coordination for Accelerator Research & Development” (grant N. 312453) [6].

From 2009 to 2013 I was responsible of the design of the injection system for the Italian SuperB Factory project [7] and for the Tau-charm Factory proposal [8].

From 2011 to 2017 I was a member of the European Physical Society Accelerator Group (EPS-AG) elected board.

I have presented several invited papers and talks and am author of more than hundred publications. I have taught at the CERN CAS accelerator school (Julich, Germany, 1990) and at the ILC accelerator school (Sokendai, Japan, 2006 and Indore, India, 2012). I have served on numerous review committees and panels and as a chair at several conferences and workshops, as the latest I have organized the “Low Emittance Rings 2014 Workshop” at LNF, Frascati.

Links and references:

[1] G. Vignola and DAΦNE Project team, “DAΦNE, The Frascati Φ -factory”, pag. 1993, Proceedings of PAC'93, Washington, 1993.

- [2] TESLA TDR - DESY 2001-011.
- [3] CARE <http://esgard.lal.in2p3.fr/Project/Activities/Current/>
- [4] EuCARD <http://eucard-old.web.cern.ch/>
- [5] EUROTeV <http://www.eurotev.org/>
- [6] EuCARD-2 eucard2.web.cern.ch
- [7] M.E. Biagini, P. Raimondi, J. Seeman, "SuperB Progress Report: Accelerator", December 2010, arXiv: 1009.6178v3
- [8] M.E. Biagini et al, "Tau/Charm Factory Accelerator Report", INFN Report INFN-13-13/LNF, September 2013, arXiv:1310.6944

Antonio DI DOMENICO

Curriculum Vitae

May 2017

Part I – General Information

Full Name	Antonio DI DOMENICO
Date of Birth	11 July 1962
Place of Birth	Roma
Citizenship	Italian
E-mail	antonio.didomenico@roma1.infn.it
Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes
University graduation	1990	Sapienza University of Rome	Degree in Physics
PhD	1995	Sapienza University of Rome	PhD in Physics

Part III – Appointments

IIIA – Academic Appointments [Years, Institutions, Positions]

Start	End	Institution	Position
2014		MIUR - (<i>Abilitazione Scientifica Nazionale - Bando 2012, DD n. 222/2012</i>)	Full Professor (<i>Abilitazione I Fascia S.C. 02/A1</i>)
2012	-	Sapienza University of Rome, Department of Physics	Associate Professor
2010		University of Roma Tre (<i>Facolta' Scienze MFN</i>)	Associate Professor (<i>Idoneita' Prof. associato - S.S.D. FIS/01</i>)
2005	2012	Sapienza University of Rome, Department of Physics	<i>Professore aggregato</i>
1999	2012	Sapienza University of Rome, Department of Physics	Assistant Professor
1998	1999	Istituto Nazionale Fisica Nucleare, Sezione di Roma	Research fellowship (<i>ex art.23 D.P.R. 171/91</i>)
1997	1997	Sapienza, University of Rome, Department of Physics	Post-doc fellowship
1996	1996	Istituto Nazionale Fisica Nucleare, Sezione di Roma	Post-doc fellowship
1995	1995	Istituto Nazionale Fisica Nucleare, Sezione di Roma	Post-doc fellowship

IIIB – Other Appointments

Appointments in the KLOE collaboration

Start End Position

2000	2013	Scientific secretary of the policy board
2000	2004	Convener of the neutral K meson analysis working group
1999	2006	Run coordinator (role not continuous during the time interval)
1999	2002	Operation board member (representing the calorimeter group)
1997	1999	Assembling area manager during the detector installation phase

Appointments in the KLOE-2 collaboration

Start End Position

2015	-	Spokesperson
2011	-	Run coordinator (role not continuous during the time interval)
2010	-	Member of the Analysis board
2010	2015	Co-convener of the Kaon analysis group
2009	2015	Convener of the Kaon Interferometry analysis group
2015	-	Member of the Policy Board
2009	2015	Chair of the Policy Board
2009	-	Member of the Institution Board
2008	-	Member of the Technical board
2009	2013	Head of the KLOE/KLOE-2 INFN Rome1 group
2006	2009	Co-convener of the calorimeter group

Appointments at Sapienza University of Rome

Start End Position

2014	2014	Chair of the committee for PhD graduation in Particle Physics and Astrophysics
2012	-	Member of the board of faculties of the PhD school in Accelerator Physics
2011	-	Head of the teaching laboratories “Bruno Pontecorvo” of the Physics Department
2010	2013	elected (second term) member of the Executive Committee of the Physics Department
2006	2010	elected (first term) member of the Executive Committee of the Physics Department.
2005	-	member of the Science faculty committee for “Teaching and scientific infrastructures”
2007	-	member of several committees for assignment of Post-doc fellowships

Appointments at INFN

Start End Position

2005	2006	member of the working group for the K meson physics for the INFN 2007-09 roadmap study
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Part IV – Teaching experience

Teaching activity* at Sapienza University of Rome

*N.B. In the period from 1st October 2016 to 30 September 2017 on leave of teaching activity with permission to carry out scientific research activities (art.17 DPR 11/07/1980 n.382) in the KLOE-2 experiment operating at the DAFNE accelerator at INFN's Frascati laboratories. The leave is being renewed for a second year from 1 October 2017 to 30 September 2018.

Year	Institution	Lecture/Course	function
2012/13-2015/16	Sapienza University of Rome	Physics (first level degrees in Medical Radiology Techniques for Imaging and Radiotherapy; Biomedical Laboratory Techniques; Safety and accident Prevention techniques; Faculty of Medicine - Campus of Rieti)	prof.
2003/04-2015/16	Sapienza University of Rome	Laboratory of electromagnetism and circuits (first level degree in Physics)	prof.
2000/01-2002/03	Sapienza University of Rome	Experimental physics III (degree in Physics)	prof.
1999/00	Sapienza University of Rome	Experimental physics III (degree in Physics)	assistant
1999/00	Sapienza University of Rome	General Physics I (degree in Chemistry)	assistant

Training

2002-2017	Sapienza University of Rome	14 first level thesis , 6 second level thesis and 3 PhD thesis the 3 PhD students have now a researcher position: S Fiore (permanent position at ENEA-Casaccia), M. Testa (permanent position at INFN-LNF), A. De Santis (RTD INFN-LNF)]	supervisor/co-supervisor
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Other teaching experiences

Year	Institution	Lecture/Course	function
2009-2003	INFN/Frascati laboratory	“Incontri di Fisica” program for secondary school teachers/ Gamma spectroscopy working group	prof./tutor
2001-2010	Sapienza University of Rome	Several visits organized for students in Physics at the main research laboratories in particle physics : INFN labs at Frascati, INFN labs at Gran Sasso, CERN labs at Geneve, Virgo experiment labs at Cascina. More than 500 participating students in total.	organizer

Science for public

Year	Title	Event/Issue	Role/function
2017	Talk "Studiare Scienze MFN alla Sapienza"	High School Career Day, LNF 3 aprile 2017	Speaker
2013	"Remembering Giordano Diambri Palazzi" ISBN 978-88-88610-35-1	libro commemorativo	co-editor
2011	Interview	Radio broadcast “Odissea 2011” (Station Radio24)	Expert in the field of Quantum Mechanics
1991	Vol.4 "L'esplorazione dello spazio"	Encyclopedia: "Gioia di conoscere", Ed. De Agostini	Translation from English to Italian for the Italian edition

Part V - - Society memberships, journal referee, conferences and seminars

Part V.A - - Society memberships, journal referee etc..

Year	Title	Function
2010-today	ARAP Associazione Romana Astro-Particelle	Member
1999-today	Istituto Nazionale Fisica Nucleare	Affiliation with “Incarico di ricerca”
1991-1995	Italian Physics Society	Member

1996-today	International journals: Physics Letters A, Physics Letters B, Physical Review Letters, Nuclear Physics B, Nuclear Instruments and Methods in Physics Research B, Foundations of Physics	Referee of papers
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Part V.B - - Conference Organization

Year	Title	Function
2016	DISCRETE 2016 Fifth Symposium on Prospects in the Physics of Discrete Symmetries, Warsaw, Poland	Member of the International Advisory Committee
2016	KLOE-2 Workshop on e+e- Physics at 1 GeV, Frascati, 26-28 October 2016	Chair of the organizing committee
2014	DISCRETE '14 Symposium on Prospects in the Physics of Discrete Symmetries, London, UK	Member of the International Advisory Committee and co-editor of the proceedings
2014	Workshop on Questioning fundamental physical principles, CERN, Geneva, Switzerland	Member of the organizing Committee
2012	DISCRETE '12 Symposium on Prospects in the Physics of Discrete Symmetries, Lisbon, Portugal	Member of the International Advisory Committee
2011	Topical seminars: Quantum Mechanics meets Gravity, Sapienza University, Rome, Italy	Organizer
2010-today	DISCRETE conference series	Member of the steering committee
2010	DISCRETE'10 Second Symposium on Prospects in the Physics of Discrete Symmetries, Sapienza University, Rome, Italy	Chair of the organizing committee and main editor of the proceedings
2010	X International Conference on Heavy Quarks and Leptons, LNF, Italy	Member of the organizing committee
2008	DISCRETE '08 Symposium on Prospects in the Physics of Discrete Symmetries, IFIC, Valencia, Spain	Member of the International Advisory Committee
2007	KAON 2007, International Kaon Conference, LNF, Frascati, Italy	Member of the organizing committee and co-editor of the proceedings
2006	Mini-Workshop: Neutral kaon interferometry at a ϕ -factory: from Quantum Mechanics to Quantum Gravity, LNF, Frascati, Italy	Organizer and editor of the handbook related to the conference
2004	DAΦNE 2004: Physics at meson factories, LNF, Italy	Member of the organizing committee

Part V.C - - Invited seminars

Year	Title	Institution
2016	Precision tests of CPT symmetry and Quantum Mechanics with entangled neutral K meson pairs	Department of Physics, University of Naples Federico II, 6 December 2016
2015	CPT symmetry, entanglement, and the neutral kaon system	Dipartimento di Fisica, Universita' di Trieste, 22 April 2015
2012	Hunting for CPT symmetry and Quantum Mechanics violations in neutral meson systems	Vienna Central European Seminar, Vienna, 30 November - 2 December 2012
2009	CPT symmetry and quantum coherence tests in the neutral kaon system at KLOE	Physics Department, Warsaw University, A. Soltan Institute for Nuclear Studies, Warsaw, Poland
2008	Experimental tests of CPT symmetry and quantum mechanics in the neutral kaon system	Institute of Physics, Jagiellonian University, Cracow, Poland
2008	Test della simmetria CPT e della meccanica quantistica nel sistema dei mesoni K neutri a KLOE	Physics Department, Sapienza University of Rome, Italy
2008	Experimental tests of CPT symmetry and quantum mechanics in the neutral kaon system	Laboratoire de Physique des Hautes Energies, Ecole Polytechnique Fédérale de Lausanne, Switzerland
2007	CPT and QM tests with neutral kaons at a ϕ -factory: results and perspectives	Institut für Theoretische Physik – Wien Universität, Austria
2005	Correlations in ϕ decays into K_0K_0	International School of Physics “Enrico Fermi” CLXIII course “CP violation: from quarks to leptons”, Varenna, Italy

Part V.D - - Invited talks at conferences and workshops

2016	Tests of discrete symmetries in the kaon system	Discrete 2016, Warsaw, Poland, 28 November - 3 December 2016
2016	Probing CPT in transitions with entangled neutral kaons	Kaon 2016, Birmingham, UK, 14-17 September 2016
2016	Precision tests of CPT symmetry and Quantum coherence with entangled neutral K mesons in the search for Quantum Gravity effects	XXII SIGRAV Conference, Cefalu', Italy, 12-18 September 2016
2016	Precision tests of CPT symmetry and Quantum coherence with entangled neutral K mesons	Summer School and Workshop on the Standard Model and Beyond, Corfu', Greece, 31 August-12 September 2016
2016	Search for CPT and Lorentz symmetry violation effects in entangled neutral K mesons	CPT'16, Bloomington, USA, 21-25 June 2016
2016	Precision tests of CPT symmetry and Quantum coherence with entangled	Testing Quantum Gravity, Torino, Italy, 26-27 May 2016

	neutral K mesons	
2016	Precision tests of CPT symmetry with entangled neutral K mesons in the search for quantum gravity effects	Quantum Spacetime '16, Hyrny, Zakopane, Poland, February 6-12, 2016
2015	Probing CPT symmetry with entangled neutral K mesons	Workshop: Is quantum theory exact? Second Edition FQT2015, Laboratori Nazionali di Frascati, 23-25 September 2015
2015	CPT symmetry, Quantum Gravity and entangled neutral kaons	Marcel Grossmann meeting, July 12-18, 2015 Rome
2015	Fundamental Physics test with entangled neutral kaons	Jagiellonian Symposium on Fundamental and Applied Subatomic Physics, Krakow, 7-13 June 2015
2015	CPT symmetry, entanglement, and neutral kaons	Advances and future of fundamentals problems of quantum physics studied at different energies, Vienna, 26-27 February 2015
2014	Tests of discrete symmetries in K systems	DISCRETE 2014, London, 2-6 December 2014
2014	Hunting for CPT symmetry violations and Quantum Gravity effects in entangled neutral kaons	Conceptual and Technical Challenges for Quantum Gravity 2014, Roma, 8-12 September 2014
2014	Direct Test of time reversal and CPT symmetries with entangled neutral mesons	II Symposium on applied nuclear physics and innovative technologies September 24th-27th 2014, Jagiellonian University, KRAKÓW, POLAND
2014	Testing fundamental physical principles with entangled neutral K mesons	Workshop on Questioning Fundamental Physical Principles 2014 May 6- 9, 2014, CERN, Geneva
2014	Testing fundamental physical principles with entangled neutral K mesons	13th International Workshop on Meson Production, Properties and Interaction KRAKÓW, POLAND, 29th May - 3rd June 2014
2014	Testing fundamental physical principles with entangled neutral K mesons	Quantum Mechanics Tests in Particle, Atomic, Nuclear and Complex Systems: 50 Years after Bell's Renowned Theorem February 24 - 28, 2014, ECT*, Trento
2013	Kaon Physics with KLOE/KLOE-2: recent results	Lepton and Hadron Physics at Meson-Factories, Messina, October 13-15, 2013
2013	T and CPT tests in the entangled neutral meson systems at e+e- colliders	PHIPSI13 – International Workshop on e+e- collisions from Phi to Psi, Sapienza University of Rome, September 9 - 12, 2013
2013	Tests of quantum mechanics and discrete symmetries in entangled neutral K (B, D) meson systems	WS on tau-charm at high luminosity, La Biodola, Elba, May 26 - 31, 2013
2013	Direct test of time reversal symmetry in the entangled neutral kaon system at a ϕ -factory	KAON 2013, Ann Arbor April 29 - May 1, 2013
2013	Future experiments on T violation and	T violation and CPT tests in neutral-meson

	CPT tests in the K0 system	systems, Mainz April 15-16, 2013
2012	Testing discrete symmetries with kaons: status and perspectives	DISCRETE 2012, Lisbon 3 - 7 December 2012
2012	Foundational tests with entangled neutral mesons: status and perspectives	Workshop COST, Vienna 28 - 29 November 2012
2012	Experimental search for CPT violation in neutral meson systems	Experimental Search for Quantum Gravity - the hard facts, Waterloo 22 - 25 Oct 2012
2012	Recent results on CP and CPT test at KLOE/KLOE-2	BEACH 2012, Wichita, 23 - 28 Jul 2012
2012	Testing quantum mechanics and discrete symmetries with entangled neutral K mesons	Open Problems in Quantum Mechanics Workshop, LNF, 20 - 22 June 2012
2012	Flavor physics at DAFNE with KLOE/KLOE-2	XL International Meeting on Fundamental Physics - Flavour mini-WS, Benasque, Spain, 25 - 27 May 2012
2012	Quantum mechanics and discrete symmetries of neutral K mesons	Quantum Malta 2012, 24 - 27 Apr 2012
2011	Prospects for flavor physics at KLOE-2	Presente e futuro della fisica del flavor alla luce degli ultimi risultati di LHC, Riunione CSN1, GGI, Arcetri (Firenze), Italy
2011	CPT symmetry, Quantum Mechanics, and neutral kaon	Speakable in quantum mechanics: atomic, nuclear and subnuclear physics tests, ECT*, Trento, Italy
2011	Quantum mechanics, CPT symmetry, and neutral kaons	FPP6 - Foundations of Probability and Physics-6, Vaxjo, Sweden
2010	Tests of quantum mechanics and CPT symmetry in the neutral kaon system	Complex Quantum Systems II kick-off Workshop, Vienna, Austria
2009	Quantum coherence and CPT symmetry tests in the neutral kaon system at KLOE	KAON09 Kaon International Conference, Tsukuba, Japan
2009	Search for decoherence and CPT violation effects in the B meson system at a B-factory	Workshop on new Physics with SuperB, Warwick, UK
2008	CPT and QM tests in the neutral kaon system at KLOE	Theoretical and experimental aspects of the spin-statistics connections and related symmetries, Trieste, Italy
2008	CPT and QM tests in the neutral kaon system	Flavianet Kaon Workshop, Anacapri, Italy
2008	CPT and QM tests using kaon Interferometry	Heavy Quarks and Leptons, School of Physics, University of Melbourne, Melbourne, Australia
2007	Experimental tests of CPT symmetry and quantum mechanics in the neutral kaon system	Time and Matter 2007, Bled, Slovenia
2007	Search for CPT violation in neutral kaons with KLOE: status and perspectives	IV Meeting on CPT and Lorentz Symmetry, Indiana University, Bloomington, USA
2007	Recent results from KLOE at DAFNE	XLII Rencontres de Moriond on ELECTROWEAK INTERACTIONS AND

2006	Review of KLOE results on CPT, kaon interferometry, and perspectives	UNIFIED THEORIES, La Thuile, Aosta, Italy Workshop on Planck scale in astrophysics and cosmology, Universita' di Roma "La Sapienza", Rome, Italy
2006	Review of KLOE results on CPT, kaon interferometry, and perspectives	Mini-Workshop on Neutral kaon interferometry at a ϕ -factory: from Quantum Mechanics to Quantum Gravity, LNF, Frascati, Italy
2006	Status and perspectives of CP and CPT tests with neutral kaons at KLOE	International Workshop on discoveries in flavour physics at e+e- colliders, Frascati, Italy
2003	Kaon interferometry at KLOE: present and future	Workshop on e+e- in the 1-2 GeV range: Physics and accelerator prospects, Alghero, Italy
2001	Recent results of the KLOE experiment at DAΦNE	The fifth KEK topical conference - Frontiers in flavor physics, Tsukuba, Japan
1999	The KLOE lead scintillating fiber electromagnetic calorimeter for detecting low energy particles at DAΦNE	VIII International Conference on Calorimetry in High Energy Physics, Lisbon, Portugal
1996	Testing quantum mechanics at DAΦNE	Workshop on K physics, Orsay, France
1996	The electromagnetic calorimeter of the KLOE experiment at DAΦNE	VI International Conference on Instrumentation for experiments at e+e- colliders, Novosibirsk, Russia
1995	Testing Bell's inequality in the neutral kaon system at a ϕ -factory,	7th Lomonosov Conference on elementary particle physics - problems of fundamental physics, Moscow State University, Moscow, Russia

Part VI - Funding Information [grants as PI-principal investigator]

Grants as PI-principal investigator

Year	Title	Funding Agency/Program
2016	High precision tests of CPT symmetry and Quantum Coherence with neutral K mesons entangled states	Sapienza University of Rome / <i>Ricerca Scientifica Anno 2015 - Finanziamento Progetti di Ricerca</i>
2015	New CPT and Quantum Mechanics test methodologies with entangled neutral mesons	Sapienza University of Rome / <i>Ricerca Scientifica Anno 2015 - Finanziamento Progetti di Ricerca</i>
2014	Tests of discrete symmetries and Quantum Mechanics with entangled neutral	Sapienza University of Rome / <i>Ricerca Scientifica Anno 2014 - Finanziamento Progetti di</i>

	mesons	<i>Ricerca</i>
2013	Study of quantum interferometry with entangled K meson states	Sapienza University of Rome / <i>Ricerca Scientifica Anno 2013 - Finanziamento Progetti di Ricerca</i>
2013	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1
2012	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1
2011	Study of quantum interferometry with entangled K meson states	Sapienza University of Rome / <i>Ricerca Scientifica Anno 2011 - Finanziamento Progetti di Ricerca</i>
2011	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1
2010	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1
2009	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1
2009	Study of photosensors for scintillating crystals read-out	Sapienza University of Rome /AST
2008	Study and test of particle detectors using high quantum efficiency photodetectors	Sapienza University of Rome /AST
2007	Study and test of particle detectors using high quantum efficiency photodetectors	Sapienza University of Rome /AST

Other funding responsibilities

Year	Title	Funding Agency/Program
2011-today	as head of the teaching laboratories "Bruno Pontecorvo"	Sapienza University of Rome / Department of Physics

Part VII – Research Activities

A) Experiments in particle physics / high energy:

Year	Keywords	Short Description [maximum 200 words]
2006-today	KLOE-2 experiment	<p>KLOE-2 is the continuation of the KLOE experiment at the DAΦNE collider improved in luminosity. The detector is upgraded with the insertion of an inner tracker, small angle electron taggers for $\gamma\gamma$ physics (LET and HET), and small angle calorimeters.</p> <p>My main contributions focused on: 1) the definition of the physics program of the new experiment, in particular – after making appropriate feasibility studies - by proposing new kind of tests and measurements to get significant improvements in the tests of CPT symmetry, quantum mechanics and Lorentz symmetry using quantum interferometry with neutral K mesons; 2) several coordination roles (Spokesperson, Chair of Policy Board, convener of analysis groups, member of Institution and Analysis boards); 3) design, test and construction of the LYSO crystal calorimeters read-out by silicon photomultipliers for the Low Energy Taggers (LET); 4) feasibility studies for the upgrade of the calorimeter with high quantum efficiency photomultipliers.</p>
2014	LHCb experiment	<p>The LHCb experiment is dedicated to precision measurements of CP violation and rare decays of beauty and charm hadrons at the Large Hadron Collider (LHC) at CERN.</p> <p>My activity in LHCb focused on the feasibility study of possible tests of quantum mechanics and discrete symmetries with the neutral kaons produced in p-p collisions at LHC.</p>
2002-2013	ATLAS experiment	<p>The aim of the ATLAS experiment is to investigate the p-p collisions at the Large Hadron Collider (LHC) at CERN. Among the main goals the searches for the Higgs boson, and possible signals of supersymmetric particles, the study of the top quark properties, and flavor physics in the B and D meson sectors.</p> <p>My main contributions focused on the construction, commissioning, and final installation on the detector of the MDT chambers (Monitored Drift Tubes) of the Barrel of the muon spectrometer; I studied the performance of the MDT chambers at several muon test beams at CERN also in presence of intense background radiation; in particular I was responsible of a cosmic ray telescope stand in Roma1 for the study of a strange and potentially dangerous effect, called “serial effect”, causing a distortion of the drift time spectra along the serial gas connections of the single drift tubes of a chamber. The origin of the serial effect was fully understood and recognised not to affect the MDT performance.</p>

1992-today	KLOE experiment	<p>KLOE is a general purpose detector at DAΦNE, the e^+e^--collider of the National Laboratories of Frascati of INFN. The main goals of the experiment are kaon physics, light meson spectroscopy, ϕ meson decays, low energy hadronic cross section measurement.</p> <p>My main contributions focused on: 1) the lead scintillating fibers calorimeter, in particular with the responsibility of the design of the light guides, test and calibration of several prototype modules with e, π, μ beams, construction of the modules of the end-caps, assembly and final installation, commissioning and calibration; 2) data analysis in particular the study of quantum coherence of the entangled state of the K meson pairs and search for possible effects of decoherence, violation of CPT symmetry and/or the Lorentz symmetry; 3) several coordination roles: manager during the installation phase, run coordinator, convener of analysis groups, scientific secretary of the policy board, internal referee for several analyses.</p>
1987-1992	LEP-5 experiment	<p>Measurement of luminosity, polarization, and angular divergence of the beam at the e^+e^--collider LEP (CERN), by detecting the single bremsstrahlung photons produced in the reaction $e^+e^- \rightarrow e^+e^- \gamma$. Detection, for the first time in an accelerator, of the inverse Compton scattering of thermal photons by the electron beam.</p> <p>My main contributions focused on the feasibility study of the experiment, the simulation (GEANT) of the experimental set-up, the test and calibration of the lead and scintillating fibers calorimeter with electron beams, set-up and installation of electronics for data acquisition, data analysis for the study of inverse Compton scattering of thermal photons.</p>

B) Feasibility studies and proposals on physics foundational issues:

Year	Keywords	Short Description [maximum 200 words]
1995-today	Tests of Quantum Mechanics	<p>Study of the non-local properties of Quantum Mechanics and proposal of a possible test of Bell's inequality in the entangled neutral K meson pair produced in ϕ-meson decays. Study of the Bohr's complementary principle and proposal to realize a quantum eraser with the neutral K mesons. I contributed individually and in collaboration with prominent theorists in the field (among them R. Bertlmann, B. Hiesmayr – Vienna Univ.)</p>
2010-today	Test of discrete symmetries, T-reversal symmetry, CPT symmetry	<p>Study and proposal of tests of CPT symmetry and direct test of the violation of T symmetry ("Time reversal") in the neutral K meson system. Collaboration with prominent theorists in the field. (among them N. Mavromatos – King's college London, J. Bernabeu – IFIC Valencia, A. Kostelecky – Indiana Univ., G. Amelino-Camelia – Sapienza Univ.)</p>

C) Research and development of particle detectors:

Year	Keywords	Short Description [maximum 200 words]
2006-2009	Neutron detection with scintillating fiber calorimeters (KLONE)	Study of the response and detection efficiency of lead-scintillating fiber calorimeters to neutrons in the kinetic energy range between 20 and 180 MeV. My main contributions focused on the study of the neutron identification through the time of flight measurement, the preparation of test beams at TSL laboratory of Uppsala, and data taking.
1991-1993	Scintillating fiber e.m. calorimeters (FIB)	Study of the performance of highly segmented electromagnetic calorimeters made with lead and scintillating fibers for applications to hadron colliders. My main contributions focused on test, calibration, and analysis phases at electron test beams at CERN, and study of the calorimeter performance under intense neutron irradiation at ENEA- Casaccia.

D) Medical Physics:

Year	Keywords	Short Description [maximum 200 words]
2011-2013	PET IIT project	Research and development of techniques for positron emission tomography (PET) for medical imaging applications.
2010-2013	EXPLORER project	Study of the emission of secondary particles during patient irradiation with a beam of carbon ions for hadrontherapy, and development of innovative detectors based on scintillating crystals. My main contributions focused on test and calibration of the LYSO crystal detectors, and on the preparation, installation and data taking phases at carbon ion test beams at LNS-INFN of Catania.
1991-1992	TERA project	Project for the realization of an accelerator complex for the delivery of proton or ion beams to patients for cancer therapy. My main contribution focused on the study of a possible application of bent crystal channeling to the beam delivery system.
1988	Dosimetry with thermoluminescent materials	Analysis of the thermoluminescent kinetics of the CaF ₂ (Tm) using the glow-curve deconvolution technique. My main contribution focused on the application of the deconvolution technique to experimental data.

Part VIII – Summary of Scientific Achievements

VIII.1 Identifiers

ORCID ID: orcid.org/0000-0001-8078-2759

ResearcherID: G-6301-2011

BAI: A.Di.Domenico.1

INSPIRE: INSPIRE-00332317

VIII.2 Product type Number Data Base Year/Start End

Papers [international]	440	ISI	1990	2017
Books [scientific]	3	ISBN and inSPIRES	2007	2017
Patents	1	Patent WO2014118815 - 07/08/2014	2014	

VIII.3

	ISI database	inSPIRES database
Total number of products	440	534
Total number of products with citation data	433	499
Total Citations	8804	34978
Average Citations per Product	20.38	70.1
Hirsch (H) index	46	92
Normalized H index*	46/22=2.09	92/22=4.18

*H index divided by the academic seniority [time span in years from PhD].

Part IX – Selected Publications

#	Authors	Title	Reference	IF (2014/15)	Citations (ISI)	notes
1	A. Di Domenico, J. Bernabeu, P. Villanueva	Probing CPT in transitions with entangled neutral kaons	Journal of High Energy Physics 10 (2015) 139	6.111		Corresponding author
2	A. Di Domenico et al [KLOE-2 collaboration]	Test of CPT and Lorentz symmetry in entangled neutral kaons with the KLOE experiment	Physics Letters B 730, 89-94 (2014)	6.131	20	
3	A. Di Domenico, and 6 authors	Are collapse models testable with quantum oscillating systems? the case of neutrinos, kaons, chiral molecules	Nature, Scientific Reports 3, 1952 (2013)	5.578	4	
4	A. Di Domenico, J. Bernabeu, P. Villanueva	Direct test of time reversal symmetry in the entangled neutral kaon system at a ϕ -factory	Nuclear Physics B868: 102-119 (2013)	3.929	21	Corresponding author
5	A. Di Domenico and 6 authors	Revealing Bell's Nonlocality for Unstable Systems in High Energy Physics	The European Physical Journal C72:1856 (2012)	5.084	23	Highlighted paper in EPJC and www.sciencedaily.com

6	A. Di Domenico et al [KLOE -2 collaboration]	Physics with the KLOE-2 experiment at the upgraded DAFNE	European Physical Journal C 68, 619-681 (2010)	5.084	149	
7	A. Di Domenico	Testing quantum-mechanics in the neutral kaon system at a phi-factory	Nuclear Physics B450: 293-324 (1995)	3.929	39	
8	A. Di Domenico et al [KLOE collaboration]	First observation of quantum interference in the process $\phi \rightarrow K_S^0 \rightarrow \pi^+\pi^-\pi^+\pi^-$: A test of quantum mechanics and C P T symmetry	Physics Letters B 642, 315-321 (2006)	6.131	55	Corresponding author
9	A. Di Domenico et al [KLOE collaboration]	Measurement of $\sigma(e^+e^- \rightarrow \pi^+\pi^-\gamma)$ and extraction of $\sigma(e^+e^- \rightarrow \pi^+\pi^-)$ below 1 GeV with the KLOE detector	Physics Letters B 606,12-24 (2005)	6.131	192	
10	A. Di Domenico et al [KLOE collaboration]	A direct search for the C P-violating decay $K_S^0 \rightarrow 3\pi^0$ with the KLOE detector at DA Phi NE	Physics Letters B 619, 61-70 (2005)	6.131	27	
11	A. Di Domenico et al [KLOE collaboration]	Study of the branching ratio and charge asymmetry for the decay $K(S) \rightarrow \pi e \nu$ with the KLOE detector	Physics Letters B 636,173-182 (2006)	6.131	46	
12	A. Di Domenico et al [KLOE collaboration]	Measurements of the absolute branching ratios for the dominant K-L decays, the K-L lifetime, and V-us with the KLOE detector	Physics Letters B 632, 43-50 (2006)	6.131	68	
13	A. Di Domenico et al [KLOE-2 collaboration]	Limit on the production of a light vector gauge boson in phi meson decays with the KLOE detector	Phys.Lett. B720 (2013) 111-115	6.131	77	
14	A. Di Domenico et al [KLOE-2 collaboration]	Search for a vector gauge boson in Φ meson decays with the KLOE detector	Phys.Lett. B706 (2012) 251-255	6.131	67	
15	A. Di Domenico et al [KLOE-2 collaboration]	Search for light vector boson production in $e^+e^- \rightarrow \mu^+\mu^-\gamma$ interactions with the KLOE experiment	Phys.Lett. B736 (2014) 459-464	6.131	36	
16	A. Di Domenico et al [KLOE collaboration]	Study of the decay $\phi \rightarrow \pi^0\pi^0\gamma$ with the KLOE detector	Physics Letters B 537,21-27 (2002)	6.131	155	

17	A. Di Domenico et al [KLOE collaboration]	Study of the decay $\phi \rightarrow \eta \pi^0 \gamma$ with the KLOE detector	Physics Letters B 536, 209-216 (2002)	6.131	110	
18	A. Di Domenico et al [KLOE-collaboration]	Measurement of the pseudoscalar mixing angle and eta-prime gluonium content with KLOE detector	Physics Letters B648 (2007) 267-273	6.131	79	
19	A. Di Domenico et al [KLOE collaboration]	The KLOE electromagnetic calorimeter	Nuclear Instruments & Methods in Physics Research A482, 364-386 (2002)	1.216	183	
20	A. Di Domenico and 6 authors	Scattering of thermal photons by a 46 GeV positron beam at LEP	Physics Letters B 262, 135-138 (1991)	6.131	9	
21	A. Di Domenico et al [ATLAS collaboration]	Search for New Particles in Two-Jet Final States in 7 TeV Proton-Proton Collisions with the ATLAS Detector at the LHC	Physical Review Letters 105, 161801 (2010)	7.512	71	
22	A. Di Domenico et al [ATLAS collaboration]	Charged-particle multiplicities in pp interactions at root s=900 GeV measured with the ATLAS detector at the LHC	Physics Letters B Volume: 688, 21-42 (2010)	6.131	125	
23	A. Di Domenico et al [ATLAS collaboration]	The ATLAS Experiment at the CERN Large Hadron Collider	Journal of Instrumentation 3 S08003 (2008)	1.399	624	

Catia Milardi: Curriculum Vitae

- Ott 1986** Laurea in Fisica, con lode, conseguita presso l'Università de L'Aquila, discutendo una tesi di laurea svolta presso il gruppo PULS dei LNF riguardante le proprietà strutturali dei microaggregati di Palladio studiati mediante spettroscopia EXAFS.
- 1986 – 1988** Insegnamento come supplente di elettrotecnica e meccanica (1986/87), e di elettronica (1987/88). Associazione al gruppo PULS dei LNF.
- Set 1988** Conferimento di un contratto a tempo determinato, ai sensi dell'art. 36 della legge 70/75, nell'ambito del progetto LISA, successivamente rinnovato fino al 31 Agosto 1991 per il progetto DAΦNE.
- Nov 1990** Assunzione a tempo indeterminato presso la Divisione Acceleratori dei LNF con il profilo di Tecnologo, in esito ad un concorso pubblico nazionale.
- Mar 2002** Inquadramento nel profilo di I Ricercatore in esito ad un concorso pubblico nazionale.
- 2003** Responsabile dell'ottica del complesso di acceleratori di DAΦNE.
- 2004-2005** Cultore della materia per i corsi di Fisica Nucleare e Subnucleare II per la laurea specialistica in Fisica presso la Facoltà di Scienze M.F.N. dell'Università degli studi di Roma *La Sapienza*. Titolare per gli anni 2004-2005, 2005-2006 e 2006-2007 di un corso integrativo dal titolo *Fisica degli Acceleratori*, nell'ambito del corso di Fisica Nucleare e Subnucleare II.
- Mar 06 – Nov 15** Responsabile del Funzionamento di DAΦNE.
- Nov 2015** Responsabile Scientifico del complesso di acceleratori DAΦNE.

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