

Roma, December 2025

Antonio Di Domenico

Curriculum Vitae

Part I – General Information

Full Name (Name and Surname)	Antonio DI DOMENICO
Citizenship	Italian
E-mail (Sapienza)	antonio.didomenico@uniroma1.it
E-mail (INFN)	antonio.didomenico@roma1.infn.it
Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes
High school diploma	1981	Liceo Classico "Torquato Tasso", Roma	Classical high school diploma
University Graduation	1990	Sapienza Università di Roma	Degree in Physics Thesis title: "La misura della luminosità e della polarizzazione a LEP mediante la bremsstrahlung singola"
PhD	1995	Sapienza Università di Roma	PhD in Physics Thesis title: "Possibile verifica della teoria quantistica a DAFNE con il rivelatore dell'esperimento KLOE"

Part III – Appointments

III.A – Academic Appointments

Start	End	Institution	Position
2024	-	MIUR - re-assignment GSD and SSD - from 6/6/2024	new: GSD: 02/PHYS-01 SSD: PHYS-01/A <i>Fisica sperimentale delle interazioni fondamentali e applicazioni</i> (old: SC: 02/A1 and SSD: FIS/01)
2023	2024	MIUR - (<i>Abilitazione Scientifica Nazionale - Bando 2021-2023 (DD n. 553/2021)</i>)	Full Professor Habilitation (<i>Abilitazione I Fascia S.C. 02/A1</i>)
2014	2024	MIUR - (<i>Abilitazione Scientifica Nazionale - Bando 2012, DD n. 222/2012</i>)	Full Professor Habilitation (<i>Abilitazione I Fascia S.C. 02/A1</i>)
2012	present	Sapienza University of Rome, Department of Physics	Associate Professor
2010		University of Roma Tre (Facoltà Scienze MFN)	Associate Professor (<i>Idoneità 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 (<i>ricercatore</i>)
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
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III.B – Other Appointments

III.B.1 – 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 taken several times during the time interval)
1999	2002	Operation board member (representing the calorimeter group)
1997	1999	Assembling area manager during the detector installation phase

III.B.2 – Appointments in the KLOE-2 collaboration

Start	End	Position
2015	present	Spokesperson
2011	present	Run coordinator (role taken several times during the time interval)
2010	present	Member of the Analysis board
2010	2015	Co-convener of the Kaon analysis group
2009	2015	Convener of the Kaon Interferometry analysis group
2015	present	Member of the Policy Board
2009	2015	Chair of the Policy Board
2009	present	Member of the Institution Board
2009	2013	Head of the KLOE/KLOE-2 INFN-Rome1/Sapienza group
2008	2013	Member of the Technical board
2006	2009	Co-convener of the calorimeter group

III.B.3 – Appointments in the DUNE collaboration

Start	End	Position
2024	present	Technical co-coordinator (interim) of the KLOE-to-SAND project
2023	present	Scientific co-coordinator of the KLOE-to-SAND project
2022	present	Chair of the DUNE SAND-ECAL Working group
2021	present	Head of the DUNE Roma1 group
2021	present	Member of the DUNE Institutional board

III.B.4 – Appointments at Sapienza University of Rome

Start	End	Position
2023 (February)	2024 (February)	Chair of Commissione Laboratori Interdisciplinari (<i>Board for interdisciplinary laboratories</i>) of Faculty of Science
2018	2023 (June)	Chair of Commissione laboratori didattici (<i>Board for didactic laboratories</i>) of the Department of Physics

2018 (January)	2019 (October)	Chair of Commissione Strutture didattiche e scientifiche (<i>Board for didactic and scientific infrastructures</i>) of Faculty of Science
2005	2019	Member of Commissione Strutture didattiche e scientifiche (<i>Board for didactic and scientific infrastructures</i>) of Faculty of Science
2014	2014	Chair of the jury for final exam for PhD graduation in Particle Physics and Astrophysics
2012	present	Member of Collegio dei Docenti (<i>board of faculties</i>) of the PhD school in Accelerator Physics
2011	2023 (June)	Head of laboratori didattici (<i>didactic laboratories</i>) “Bruno Pontecorvo” of the Department of Physics
2010	2013	elected (second term) member of Giunta di Dipartimento (<i>Department Board</i>) of the Department of Physics
2006	2010	elected (first term) member of Giunta di Dipartimento (<i>Department Board</i>) of the Department of Physics
2007	present	member of several committees for assignment of Post-doc fellowships

III.B.5 – Appointments at Istituto Nazionale Fisica Nucleare (INFN)

Start	End	Position
2020	2021	member of the committee for the selection of candidates for n.1 permanent position: personale con contratto a tempo indeterminato, profilo di tecnologo, III livello professionale, at the Laboratori Nazionali di Frascati - INFN (bando BC 22116/20)
2019	2019	member of the committee for the selection of candidates for n.1 temporary position: personale con contratto a termine, profilo di ricercatore, III livello professionale, (ex art.36 – IV comma lettera a) CCNL) at the Laboratori Nazionali di Frascati - INFN (bando LNF/R3/21051)
2017	2017	member of the committee for the selection of candidates for n.1 temporary position: personale con contratto a termine, profilo di tecnologo, III livello professionale, (ex art.36 – IV comma lettera a) CCNL) at the Laboratori Nazionali di Frascati - INFN (bando LNF/T3/695)
2005	2006	member of the working group for the K meson physics for the INFN 2007-09 roadmap study

III.B.6 – Appointments at other universities

Start	End	Position
2021	2021	member of the committee for: Procedura di selezione per l’assunzione di n. 1 RTDA - ricercatore a tempo determinato ai sensi dell’art.24, comma 3, lett. a) della Legge 240/2010 presso il Dipartimento di Fisica dell’Università di Pisa, Settore concorsuale 02/A1, SSD FIS/01 Codice selezione RIC2020-11
2019	2019	member of the committee for: Procedura di selezione per l’assunzione di n. 1 RTDA - ricercatore a tempo determinato ai sensi dell’art.24, comma 3, lett. a) della Legge 240/2010 presso il Dipartimento di Fisica e Astronomia DIFA dell’Università di Bologna, Settore concorsuale 02/A1, SSD FIS/01 Rif. 7225

III.B.7 – Other: Commissions of trust, Peer Review for International Journals, Membership of Editorial board etc.

Year	Title	Role/Function
Since 2020	International Journal: Symmetry (Impact Factor 2.7)	Editorial Board Member

Since 1996	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
2016	National Science Centre, executive government agency, Poland - Funding of research projects	Reviewer of proposals
2014	National Science Centre, executive government agency, Poland - Funding of research projects	Reviewer of proposals

Part IV – Teaching experience

IV.A – Teaching activity* at Sapienza University of Rome

*N.B. In the period from 1st October 2016 to 30 September 2018 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 Frascati laboratories.

Academic Year	Institution	Lecture/Course	function
from 2018/19 to 2024/25	Sapienza University of Rome	Methods in Experimental Particle Physics Laurea Magistrale in Fisica (Master degree in Physics) 6 CFU - 60 hours 15-20 students	professor
from 2018/19 to 2024/25	Sapienza University of Rome	Laboratorio di elettromagnetismo e circuiti Laurea triennale in Fisica (Bachelor degree in Physics) 6 CFU - 60 hours 100-120 students	professor
from 2012/13 to 2015/16	Sapienza University of Rome	Fisica Laurea per le professioni Sanitarie (Bachelor degree): - Laurea in Tecniche di Laboratorio Biomedico - Laurea in Tecniche della Prevenzione nell'Ambiente e nei Luoghi di Lavoro - Laurea in Tecniche di Radiologia Medica, per Immagini e Radioterapia, Facoltà di Medicina - Polo di Rieti 6 CFU 80-100 students	professor
from 2003/04 to 2015/16	Sapienza University of Rome	Laboratorio di elettromagnetismo e circuiti Laurea triennale in Fisica (Bachelor degree in Physics) 6 CFU - 60 hours 50-100 students (depending on the year)	professor
from 2000/01 to 2002/03	Sapienza University of Rome	Esperimentazione Fisica III Laurea in Fisica (quadriennale) (degree in Physics) about 120 hours (annual course) 40-50 students	professor
1999/00	Sapienza University of Rome	Esperimentazione Fisica III Laurea in Fisica (quadriennale) (degree in Physics)	assistant
1999/00	Sapienza University of Rome	Fisica Generale I Laurea in Chimica - vecchio ordinamento (degree in Chemistry)	assistant

IV.B – Training:

IV.B.1 – Bachelor Students (Laurea Triennale) - thesis supervision

#	A.Y.	Name	Thesis Title	Degree	function
1	2005- 2006	Daniele Cialdella	Studio dell'approssimazione di Wigner- Weisskopf nel sistema dei mesoni K neutri	Laurea in Fisica (triennale)	Supervisor

2	2006-2007	Daniele Cialdella	Studio dell'evoluzione temporale dei mesoni K neutri oltre l'approssimazione di Wigner-Weisskopf	Laurea in Tecnologie Fisiche e dell'Informazione (triennale)	Supervisor
3	2006-2007	Valeria Di Biagio	Studio della disuguaglianza di Bell nel sistema dei mesoni K neutri	Laurea in Fisica (triennale)	Supervisor
4	2006-2007	Cristiano Fanelli	Studio della complementarità di Bohr nel sistema dei mesoni K neutri	Laurea in Fisica (triennale)	Supervisor
5	2006-2007	Giacomo Artoni	Studio della disuguaglianza di Bell nel sistema dei mesoni K neutri utilizzando rigeneratori	Laurea in Fisica (triennale)	Supervisor
6	2006-2007	Marco Grassi	Il calorimetro elettromagnetico nell'esperimento KLOE	Laurea in Fisica (triennale)	Supervisor
7	2006-2007	Francesco Sisti	Studio della rigenerazione dei mesoni K neutri	Laurea in Fisica (triennale)	Supervisor
8	2004-2005	Sara Borroni	Studio della rigenerazione dei mesoni K neutri	Laurea in Fisica (triennale)	Supervisor
9	2012-2013	Giulia Limiti	Adroterapia: principi fisici e studio di una nuova tecnica dosimetrica	Laurea in Fisica (triennale)	Supervisor
10	2013-2014	Michael Di Gioacchino	Studio del fenomeno della rigenerazione nel sistema dei mesoni K-neutri	Laurea in Fisica (triennale)	Supervisor
11	2013-2014	Christian Durante	Studio del Quark Gluon Plasma nelle interazioni di ioni pesanti all'LHC con l'esperimento ALICE	Laurea in Fisica (triennale)	Co-supervisor (with P. Di Nezza)
12	2013-2014	Guido Fantini	Studio della correlazione quantistica nel sistema dei mesoni K neutri ad una -factory	Laurea in Fisica (triennale)	Supervisor
13	2014-2015	Alessandro Damiano	Studio del Fenomeno della Rigenerazione nel Sistema di Mesoni K Neutri	Laurea in Fisica (triennale)	Supervisor
14	2014-2015	Chiara Girardi	Violazione della simmetria CP nel sistema dei mesoni K-neutri	Laurea in Fisica (triennale)	Supervisor
15	2015-2016	Giada Caneva Santoro	Studio della violazione della simmetria cp in un sistema di mesoni K neutri	Laurea in Fisica (triennale)	Supervisor
16	2016-2017	Giorgio Di Battista	Il sistema dei mesoni K e la violazione di CP	Laurea in Fisica (triennale)	Supervisor
17	2017-2018	Giulia Marinelli	Il fenomeno della rigenerazione nel sistema dei mesoni K neutri	Laurea in Fisica (triennale)	Supervisor
18	2020-2021	Valentina Sarandrea	Oscillazione di neutrini e misura della violazione di CP nell'esperimento DUNE	Laurea in Fisica (triennale)	Supervisor
19	2022-2023	Eleonora Pariset	L'osservazione della violazione della simmetria CP nei mesoni K neutri	Laurea in Fisica (triennale)	Supervisor

IV.B.2 – Master (Laurea Magistrale) and Laurea (Laurea quadriennale) Students- thesis supervision

#	A.Y.	Name	Thesis Title	Degree	function
1	1996-1997	Andrea Angeletti	Studio della violazione della simmetria CPT nei decadimenti semileptonici dei mesoni K neutri nell'esperimento KLOE.	Laurea in Fisica (quadriennale)	Co-supervisor
2	2002-2003	Alessandro Caldarone	Studio delle prestazioni delle camere a deriva MDT per la rivelazione dei muoni nell'esperimento ATLAS al Large Hadron Collider.	Laurea in Fisica (quadriennale)	Co-supervisor

3	2002-2003	Salvatore Fiore	Realizzazione di un telescopio a raggi cosmici per lo studio delle prestazioni delle camere a deriva MDT per l'esperimento ATLAS.	Laurea in Fisica (quadriennale)	Co-supervisor
4	2003-2004	Antonio De Santis	Misura della sezione d'urto del processo $e^+e^- \rightarrow \omega\pi^0 \rightarrow \pi^0\pi^+\pi^-\pi^0$ con il rivelatore KLOE a DAFNE e sua influenza per gli studi di interferometria quantistica con i mesoni K neutri	Laurea in Fisica (quadriennale)	Co-supervisor
5	2010-2011	Matteo Pompili	Studio delle prestazioni e calibrazione dei calorimetri LET dell'esperimento KLOE-2 a DAFNE	Laurea in Fisica (quadriennale)	Co-supervisor
6	2018-2019	Daniele Casari	Studi per un possibile upgrade del calorimetro di KLOE	Laurea in Fisica (quadriennale)	Supervisor
7	2015-2016	Guido Fantini (now RTDA - Sapienza)	Test of quantum coherence with entangled neutral K mesons at KLOE	Laurea Magistrale in Fisica	Supervisor
8	2019-2020	Riccardo D'Amico	Test of quantum correlation in the KSKL $\rightarrow \pi^+\pi^-\pi^+\pi^-$ channel at KLOE	Laurea Magistrale in Fisica	Supervisor
9	2020-2021	Emanuele Cardinali	Measurement of the charged kaon mass at KLOE	Laurea Magistrale in Fisica	Co-supervisor
10	2021-2022	Ginevra De Lauretis	Characterization of the Charge Readout Planes and of their readout system for the top drift volume of the second DUNE far detector module	Laurea Magistrale in Fisica	Co-supervisor
11	2022-2023	Daniele Truncali	Test of the electromagnetic calorimeter of the SAND detector for the DUNE long baseline neutrino experiment at LBNF	Laurea Magistrale in Fisica	Supervisor
12	2023-2024	Viola Di Silvestre	The electromagnetic calorimeter of the SAND near detector at Fermilab for the DUNE long baseline neutrino experiment: design and test of the read-out electronics.	Laurea Magistrale in Fisica	Supervisor
13	2023-2024	Pierluigi Fedeli	Commissioning and calibration of the Mu2e crystal calorimeter in extracted position	Laurea Magistrale in Fisica	Co-supervisor

IV.B.3 – PhD Students - thesis supervision

#	Year	Name	Thesis Title	Degree	function
1	2008	Antonio De Santis (now researcher at INFN-LNF)	Study of the $e^+e^- \rightarrow \omega\pi^0$ process in the ϕ mass region with the KLOE experiment	PhD in Physics	Co-supervisor
2	2007	Salvatore Fiore (now researcher at ENEA-Frascati)	Search for the $\phi \rightarrow K^0K^0\gamma$ decay with the KLOE experiment	PhD in Physics	Co-supervisor
3	2005	Marianna Testa (now researcher at INFN-LNF)	Study of quantum interference in the channel $e^+e^- \rightarrow \phi \rightarrow KSKL \rightarrow \pi^+\pi^-\pi^+\pi^-$ and measurement of the branching ratio of the decay $KL \rightarrow \pi^+\pi^-$ with the KLOE experiment.	PhD in Physics	Supervisor
4	2021	Alessandro Calamida	Upgrade of the accelerator-driven Frascati Neutron Generator: α/n correlation measurements for the installation of a trigger system	PhD in Accelerator Physics	Co-supervisor

IV.B.4 – Scientific Supervisor of fellowships

Period	Recipient	Type	Funding	Role
2009-2010	Salvatore Fiore	Post-doc fellowship (Assegno di Ricerca)	Dipartimento di Fisica, Sapienza Universita' di Roma	Scientific supervisor
2010-2011	Antonio De Santis	Post-doc fellowship (Assegno di Ricerca)	Dipartimento di Fisica, Sapienza Universita' di Roma	Scientific supervisor
2019-2020	Elena Perez Del Rio	Post-doc fellowship (Assegno di Ricerca)	Dipartimento di Fisica, Sapienza Universita' di Roma	Scientific supervisor
2020-2021	Veronica De Leo	Post-doc fellowship (Assegno di Ricerca)	Dipartimento di Fisica, Sapienza Universita' di Roma	Scientific supervisor
2021	Riccardo D'Amico	Post-degree fellowship (borsa post-laurea) - 6 months	Dipartimento di Fisica, Sapienza Universita' di Roma	Scientific supervisor

- 1 PhD student, Post-doc, Dr. S Fiore, is now researcher (permanent position) at ENEA-Frascati (now Staff member at CERN)
- 1 PhD student, Dr. M. Testa, is now researcher (permanent position) at INFN-Frascati
- 1 PhD student, Post-doc, Dr. A. De Santis, is now researcher (permanent position) at INFN-Frascati
- 1 Master student, Dr. G. Fantini, is now researcher RTDA (temporary position) at Sapienza University of Rome
- 1 Post-doc, Dr. V. De Leo, is now researcher (permanent position) at ENEA-Frascati
- 1 Post-doc, Dr. Elena Perez Del Rio, is now assistant professor at Jagiellonian University in Kraków, Poland

IV.C – 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

Parte IV.D – Science for public, outreach and third mission

Year	Title	Event/Issue	Role/function
2022	Live streaming interview on Nobel prize for Physics 2022	Interview organized by INFN in live streaming a few hours after the awarding of the Nobel Prize for Physics 2022 for immediate comments https://home.infn.it/it/news-infn/5222-premio-nobel-per-la-fisica-2022-alla-meccanica-quantistica	Invited Speaker as expert in the field of quantum entanglement.
2021	Talk "Esperienze di Laboratorio simulato II (Elettronica)"	Prospettive per il miglioramento della didattica universitaria dopo l'esperienza della pandemia,	Invited Speaker

		Università di Bologna - 24 September 2021 - con.scienze	
2018	Talk "Studiare Scienze MFN alla Sapienza"	Visit & Career Day, INFN-LNF - 16 April 2018	Invited Speaker
2017	Seminar "Particelle strane, entanglement e paradossi quantistici"	Seminar of the Conference cycle for public "La Fisica incontra la Citta' ", Dipartimento di Matematica e Fisica, Università di Roma Tre, Italy, 7 June 2017	Invited Speaker
2017	Talk "Studiare Scienze MFN alla Sapienza"	High School Career Day, INFN- LNF - 3 April 2017	Invited Speaker
2013	"Remembering Giordano Diambrini Palazzi" ISBN 978-88-88610-35-1	Commemorative book	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, conferences and seminars

V.A – Society memberships etc..

Year	Title	Role/Function
2018	Societa' Italiana di Fisica	Member
2010-2015	ARAP Associazione Romana Astro-Particelle	Member
Since 1999	Istituto Nazionale Fisica Nucleare	Affiliation with “Incarico di ricerca”
1991-1995	Societa' Italiana di Fisica	Member

V.B – Conference Organization

Year	Title	Function
2025	WQC Workshop on Quantum Entanglement of High Energy Particles, Wilczek Quantum Center, Shanghai, China, July 19-23, 2025	Member of the International Advisory Committee
2022	International Workshop on "e+e- Collisions From Phi to Psi", Fudan Univ., Shanghai, China, August 15-19, 2022	Member of the International Advisory Committee
2019	International Workshop on "e+e- Collisions From Phi to Psi 2019" Novosibirsk, Russia, February 25th, March 1st, 2019	Member of the International Advisory Committee
2018	DISCRETE 2018 Sixth Symposium on Prospects in the Physics of Discrete Symmetries, Vienna, Austria	Member of the International Advisory Committee and Co-convener of the parallel session: Emergence of symmetries from entanglement
2016	DISCRETE 2016 Fifth Symposium on Prospects in the Physics of Discrete Symmetries, Warsaw, Poland	Member of the International Advisory Committee and Co-convener of the parallel sessions: - T, C, P, CP and CPT symmetries - Emergence of symmetries from entanglement
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
2010-2021	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
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V.C – Invited seminars

Year	Title	Institution
2022	Recent results on entangled neutral kaons at KLOE-2	EP seminar, CERN, 26 April 2022
2019	Test of CPT in transitions with entangled neutral kaons	Faculty of Physics, Astronomy and Applied Computer Science, Jagiellonian University - November 18th, 2019, Kraków, Poland
2019	L'esperimento KLOE-2 a DAFNE	Dipartimento di Fisica e Astronomia, Università di Firenze, 25 June 2019
2016	CPT symmetry, entanglement, and the neutral kaon system	Dipartimento di Fisica, Università di Napoli Federico II, 6 December 2016
2015	CPT symmetry, entanglement, and the neutral kaon system	Dipartimento di Fisica, Università di Trieste, 22 April 2015
2012	Hunting for CPT symmetry and Quantum Mechanics violations in neutral meson systems	Vienna Central European Seminar, Vienna, 30 Novembre - 1 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

V.D – Invited talks at conferences and workshops

Year	Title	Conference/Workshop
2025	The "back from the future" quantum effect in entangled neutral kaons at KLOE/KLOE-2	Workshop "Testing Quantum Foundations in the 2025 Quantum Year", LNF, Italy, 20-22 October 2025
2025	The "back from the future" quantum effect in entangled neutral kaons at KLOE/KLOE-2	WQC Workshop on Quantum Entanglement of High Energy Particles, Wilczek Quantum Center, Shanghai, China, July 19-23, 2025
2024	Entanglement and time paradoxes in neutral kaons at KLOE	XXVI Roma Tre Topical Seminar on Subnuclear Physics - Testing quantum mechanics at colliders, Roma, Italia, 3 December 2024
2024	The experimental study of K_0 - K_0 bar quantum entanglement at KLOE: from past to future or from future to past?	Workshop Quantum Tests in Collider Physics, Oxford, UK, 1-3 October 2024

2024	CPT tests with neutral kaons	The 2024 International Workshop on Future Tau Charm Facilities (FCTF2024), Hefei, China, 14-18 January 2024
2023	Entanglement of neutral K-mesons	Workshop "COLMO: Quantum collapse models investigated with particle, nuclear, atomic and macro systems", ECT*, Trento, Italy, 3-7 July 2023
2022	Testing time paradoxes, discrete symmetries and all that in entangled neutral K-mesons	Workshop "The hitchhiker's advanced guide to quantum collapse models and their impact on science, philosophy, technology and biology", LNF, Italy, 31 October - 4 November 2022
2022	Fast luminosity monitor for FCC-ee based on the LEP experience	FCC-EIC Joint & MDI Workshop 2022, CERN, Switzerland, 17-28 October 2022
2022	Fast luminosity monitor for FCC-ee based on the LEP experience	65th ICFA Advanced Beam Dynamics Workshop on High Luminosity Circular e+e- Colliders (eeFACT2022), 12-16 September 2022, INFN-LNF, Italy
2022	Latest results on Kaon Physics at KLOE-2	65th ICFA Advanced Beam Dynamics Workshop on High Luminosity Circular e+e- Colliders (eeFACT2022), 12-16 September 2022, INFN-LNF, Italy
2022	Entanglement, CPT and neutral kaons	Ninth Meeting on CPT AND LORENTZ SYMMETRY, May 17-26, 2022 - Indiana University, Bloomington, USA
2021	Recent results with entangled neutral kaons at KLOE-2	Workshop on the Standard Model and Beyond, Corfu, August 29 - September 8, 2021
2020	The "Strange" Entanglement of neutral K mesons: a powerful tool and a case study	Is Quantum Theory exact? Exploring the quantum boundaries, LNF Frascati - 10-11 December 2020
2019	On CPT tests with entangled neutral kaons	Eighth Meeting on CPT AND LORENTZ SYMMETRY, May 12-16, 2019 - Indiana University, Bloomington, USA
2018	Test of CPT in transitions with entangled neutral kaons	Workshop on Discrete symmetries in particle, nuclear and atomic physics and implications for our Universe, ECT*, Trento, Italy, 8-12 October 2018
2018	L'esperimento KLOE-2 a DAFNE	104 Congresso SIF, Cosenza e Rende, 17-21 settembre 2018
2018	Test of CPT in transitions with entangled neutral kaons	Workshop on the Standard Model and Beyond 31 August – 9 September 2018, Corfu, Greece
2018	Test of CPT in transitions with entangled neutral kaons	Workshop on Is Quantum Theory exact? The quest for spin-statistics connection violation and related items LNF, Italy, 2-5 July 2018
2017	Test of discrete symmetries with neutral kaons at KLOE-2	Workshop on Quantum foundations ^[1] LNF - Frascati, Italy 29 November – 1 December 2017
2017	Test of discrete symmetries with neutral kaons at KLOE-2	Autumn Institute II: testing SM at low and high energy LNF - Frascati, Italy 28 November 2017
2017	CPT, entanglement and neutral kaons	Workshop on Testing Fundamental Physics Principles 22 – 28 September 2017, Corfu, Greece
2017	CPT, entanglement and neutral kaons	Workshop on the Standard Model and Beyond 2 – 10 September 2017, Corfu, Greece
2017	Testing discrete symmetries in transitions with entangled neutral kaons	2nd Jagiellonian Symposium on fundamental and applied subatomic physics- Workshop on discrete symmetries and entanglement, Krakow, Poland, 4-9 June 2017
2016	Tests of discrete symmetries in the kaon system	Discrete 2016, Warsaw, Poland, 28 November - 3 December 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 neutral K mesons	Testing Quantum Gravity, Torino, Italy, 26-27 May 2016
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	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	Future experiments on T violation and CPT tests in the K ₀ system	T violation and CPT tests in neutral-meson 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	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	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	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
2006	Review of KLOE results on CPT, kaon interferometry, and perspectives	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
2003	Kaon interferometry at KLOE: present and future	Workshop on e+e- in the 1-2 GeV range: Physics and accelerator prospects, Alghero, Italy
1996	Testing quantum mechanics at DAΦNE	Workshop on K physics, Orsay, France
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

V.E – Talks at conferences and workshops

Year	Title	Conference/Workshop
2025	The "back from the future" quantum effect in entangled neutral kaons at KLOE/KLOE-2	XIII International Conference on Kaon Physics (KAON 2025), Mainz, Germany, 8-12 September 2025
2025	The "back from the future" quantum effect in entangled neutral kaons at KLOE/KLOE-2	From Foundations of Quantum Mechanics to Quantum Information and Quantum Metrology & Sensing, Quantum 2025 , Workshop ad memoriam of Carlo Novero, Unione Industriali - Torino, May 18-24, 2025
2023	Observation of the post-tagging effect for entangled K mesons at KLOE	European Physical Society (EPS) - Conference on High Energy Physics - Hamburg, Germany 21-25 August 2023
2022	Can future observation of the living partner post-tag the past decayed state in entangled neutral K-mesons?	International Conference on Kaon Physics (KAON 2022), Osaka University, Osaka, Japan, 13-16 Sep. 2022
2022	A direct test of the T and CPT symmetries in transitions of neutral kaons with KLOE data	International Conference on Kaon Physics (KAON 2022), Osaka University, Osaka, Japan, 13-16 Sep. 2022
2018	Measurement of charge asymmetry for the $K_S \rightarrow \pi e \nu$ decay and test of CPT symmetry with the KLOE detector	DISCRETE 2018, Vienna, Austria, 25-30 November 2018

2018	Testing discrete symmetries with neutral kaons at KLOE-2	ICHEP 2018, Seoul, Korea, 4-7 July 2018
2017	Test of discrete symmetries with neutral kaons at KLOE-2	European Physical Society (EPS) - Conference on High Energy Physics - Venice, Italy 5-12 July 2017
2016	Probing CPT in transitions with entangled neutral kaons	Kaon 2016, Birmingham, UK, 14-17 September 2016
2013	Kaon Physics with KLOE/KLOE-2: recent results	Lepton and Hadron Physics at Meson-Factories, Messina, October 13-15, 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
2012	Recent results on CP and CPT test at KLOE/KLOE-2	BEACH 2012, Wichita, 23 - 28 Jul 2012
2011	Prospects for flavor physics at KLOE-2	Presente e futuro della fisica del flavor alla luce degli ultimi risultati di LHC, INFN - CSN1 meeting, GGI, Arcetri (Firenze), Italy
2009	Quantum coherence and CPT symmetry tests in the neutral kaon system at KLOE	KAON09 Kaon International Conference, Tsukuba, Japan
2007	Recent results from KLOE at DAΦNE	XLII Rencontres de Moriond on ELECTROWEAK INTERACTIONS AND UNIFIED THEORIES, La Thuile, Aosta, 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
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	The electromagnetic calorimeter of the KLOE experiment at DAΦNE	VI International Conference on Instrumentation for experiments at e+e- colliders, Novosibirsk, Russia

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

Year	Title	Funding Agency/Program	value (euro)
2025	DUNE experiment	INFN/Roma1 CSN1	639500
2024	DUNE experiment	INFN/Roma1 CSN1	29500
2023	Nu at FNAL	INFN/Roma1 CSN2	22000
2022	Nu at FNAL	INFN/Roma1 CSN2	42000
2022	Study of the post-tagging concept and its application to the study of discrete symmetries in entangled neutral kaons	Sapienza Universita' di Roma / Ricerca Scientifica Anno 2022 - Finanziamento Progetti di Ricerca	10000
2020	Can future observation of the living partner influence the past decayed state in entangled neutral K-mesons?	Sapienza Universita' di Roma / Ricerca Scientifica Anno 2020 - Finanziamento Progetti di Ricerca	13000
2019	First test of Lorentz and CPT symmetries in the non-minimal Standard Model Extension with entangled neutral K mesons	Sapienza Universita' di Roma / Ricerca Scientifica Anno 2019 - Finanziamento Progetti di Ricerca	4000
2019	The phi-factory at the extreme: study of the strange entanglement and full exploitation of the largest existing e+e- collision data at a phi-factory.	Sapienza Universita' di Roma / Ricerca Scientifica Anno 2018 - Finanziamento Progetti di Ricerca	35800
2017	Finanziamento delle attività base di ricerca	MIUR	3000
2016	High precision tests of CPT symmetry and Quantum Coherence with neutral K mesons entangled states	Sapienza University of Rome / Ricerca Scientifica Anno 2015 - Finanziamento Progetti di Ricerca	13000
2015	New CPT and Quantum Mechanics test methodologies with entangled neutral mesons	Sapienza University of Rome / Ricerca Scientifica Anno 2015 - Finanziamento Progetti di Ricerca	5000
2014	Tests of discrete symmetries and Quantum Mechanics with entangled neutral mesons	Sapienza University of Rome / Ricerca Scientifica Anno 2014 - Finanziamento Progetti di Ricerca	7000
2013	Study of quantum interferometry with entangled K meson states	Sapienza University of Rome / Ricerca Scientifica Anno 2013 - Finanziamento Progetti di Ricerca	7000
2013	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1	21500
2012	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1	39000
2011	Study of quantum interferometry with entangled K meson states	Sapienza University of Rome / Ricerca Scientifica Anno 2011 - Finanziamento Progetti di Ricerca	12000
2011	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1	91000
2010	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1	96000
2009	KLOE/KLOE-2 experiment	INFN/Roma1 CSN1	104500
2009	Study of photosensors for scintillating crystals read-out	Sapienza University of Rome /AST	8000
2008	Study and test of particle detectors using high quantum efficiency photodetectors	Sapienza University of Rome /AST	5000
2007	Study and test of particle detectors using high quantum efficiency photodetectors	Sapienza University of Rome AST	7000

Other funding responsibilities

Year	Title	Funding Agency/Program	value (euro)
2011-2023 (June)	as head of the didactic laboratories "Bruno Pontecorvo"	Sapienza University of Rome / Department of Physics	about 30000 per year

Part VII – Research Activities

VII.A – Experiments in particle physics / high energy:

Year	Keywords	Short Description
2020-present	DUNE	<p>DUNE is a long baseline neutrino experiment under construction at Fermilab (beam and Near Detector) and Sanford Underground Facility (Far detector) sites in US. DUNE aims at several key measurements in the field of Neutrino Physics, including the search and measurement of CP violation, an independent determination of neutrino mass hierarchy, the precision measurement of neutrino mixing parameters, the detection of neutrinos coming from the collapse of supernovae and many others.</p> <p>SAND (System for on-Axis Neutrino Detection) is one of the three independent detectors of the DUNE Near Detector Complex. It is constituted by the KLOE electromagnetic calorimeter (ECAL), surrounding an internal tracker made with straw tubes, both immersed in magnetic field provided by a superconducting coil (KLOE magnet and iron yoke).</p> <p>My main contribution in this phase as chair of ECAL WG and of the KLOE-to-SAND project focuses in general on the coordination of the operations of dismantling of the KLOE detector at LNF-Frascati and in particular of the ECAL, the design, test and construction of the new ECAL read-out electronics, and the preparation for the final ECAL installation and commissioning at Fermilab.</p>
2006-present	KLOE-2	<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> <p>In my role of spokesperson I have the responsibility of representing the collaboration, in particular in the meetings with the LNF scientific committee and their referees, regularly giving talks on the updated status of the project or organizing dedicated meeting sessions.</p> <p>In this role I led the collaboration during most of the demanding data-taking phase at DAFNE, promoting the subsequent phase of data reconstruction and the several physics analyses with both KLOE and KLOE-2 data, also with an intense activity as internal referee of analyses and publications.</p>
2014	LHCb	<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 and 2019-present	ATLAS	<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 Roma 1 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> <p>More recently I've contributed to the commissioning at CERN of the MicroMega chambers for the ATLAS muon spectrometer upgrade, and the studies for the noise evaluation and HV optimization.</p>
1992-present	KLOE	<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 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	<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⁻ → e⁺e⁻ γ.</p> <p>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>
2022-2023	FCC-ee	<p>Based on the LEP-5 experience, I preliminarily investigated the feasibility of a fast luminosity monitor for the FCCee collider project at CERN using the detection of small angle photons emitted in the single bremsstrahlung process e⁺e⁻ ⇒ e⁺e⁻ gamma. The effects of various backgrounds, including the huge beamstrahlung contribution not present at LEP, are of crucial importance and are being studied.</p>

VII.B – Feasibility studies and proposals on physics foundational issues:

Year	Keywords	Short Description
1995-present	Tests of Quantum Mechanics	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 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., J. Bernabeu – IFIC Valencia)
2010-present	Test of discrete symmetries, T-reversal symmetry, CPT symmetry	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 J. Bernabeu – IFIC Valencia, N. Mavromatos – King's college London, A. Kostelecky – Indiana Univ., G. Amelino-Camelia – Sapienza Univ.)
2019-present	Study of the properties of entanglement for K mesons	Study of the time paradoxes in entangled neutral K mesons produced at a Phi-factory ("future post-tags the past" effect) and test proposals with the KLOE-2 experiment in collaboration with the theorist J. Bernabeu – IFIC Valencia. Study of possible applications of the "post-tag" effect in discrete symmetry tests in neutral K mesons.

VII.C – Research and development of particle detectors:

Year	Keywords	Short Description
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.

VII.D – Medical Physics:

Year	Keywords	Short Description
2011-2013	Radio-guided surgery (PET IIT project)	Research and development of techniques for positron emission tomography (PET) for medical imaging applications. Studies for intraoperative detection of tumor residues using beta-radiation and corresponding probes (patent WO2014118815).
2010-2013	Dosimetry for hadrontherapy (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 CaF₂ (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.A – Identifiers

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

ResearcherID: G-6301-2011

BAI: A.Di.Domenico.1

INSPIRE: INSPIRE-00332317

VIII.B – Summary tables

Product type	Number	Data Base	Year/Start	End
Papers [international]	628	WOS - web of Science	1990	2024
Books [scientific]	5	ISBN e inSPIRES	2007	2024
Patents	1	Patent WO2014118815 - 07/08/2014	2014	

Database	WOS - web of science	inSPIRES (citeable)
Total number of products	628	861
Total Citations	30301	82517
Average Citations per Product	48.25	95.8
Hirsch (H) index	86	141

VIII.C – Selected Publications

#	Authors	Title	Reference	IF (2020)	Citations (inSPIRE)	notes
1	A. Di Domenico et al [KLOE-2 collaboration]	Direct tests of T, CP, CPT symmetries in transitions of neutral K mesons with the KLOE experiment	Phys. Lett. B 845 (2023) 138164 e-Print: 2211.12377 [hep-ex]	4.771	6	KLOE-2 internal referee of the analysis
2	A. Di Domenico et al [KLOE-2 collaboration]	Measurement of the $KS \rightarrow \pi e \nu$ branching fraction with the KLOE experiment	Journal of High Energy Physics 02(2023)098 e-Print: 2208.04872 [hep-ex]	5.81	7	KLOE-2 internal referee of the analysis
3	A. Di Domenico and J. Bernabeu	Can Future Observation of the Living Partner Post-tag the Past Decayed State in Entangled Neutral K-Mesons ?	Phys. Rev. D 105, 116004 (2022)	5.296	13	Corresponding author
4	A. Di Domenico et al [KLOE-2 collaboration]	Precision tests of Quantum Mechanics and CPT symmetry with entangled neutral kaons at KLOE	Journal of High Energy Physics 04 (2022) 059	5.81	16	Corresponding author; KLOE-2 co-author of the analysis
5	A. Di Domenico et al	Measurement of the branching fraction for the	Phys.Lett. B804 (2020) 135378	4.771	16	KLOE-2 internal referee of the analysis

6	[KLOE-2 collaboration] A. Di Domenico et al [KLOE-2 collaboration]	decay $KS \rightarrow \pi\mu\nu$ with the KLOE detector Measurement of the charge asymmetry for the $KS \rightarrow \pi e\nu$ decay and test of CPT symmetry with the KLOE detector	Journal of High Energy Physics 09 (2018) 021	5.81	27	KLOE-2 internal referee of the analysis
7	A. Di Domenico, J. Bernabeu, P. Villanueva	Probing CPT in transitions with entangled neutral kaons	Journal of High Energy Physics 10 (2015) 139	5.81	47	Corresponding author
8	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)	4.771	55	KLOE-2 co-author of the analysis
9	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)	2.759	81	Corresponding author
10	A. Di Domenico and 6 authors	Revealing Bell's Nonlocality for Unstable Systems in High Energy Physics	European Physical Journal C72:1856 (2012)	4.59	34	Second author; Highlighted paper in EPJC and www.sciencedaily.com
11	A. Di Domenico et al [KLOE collaboration]	First observation of quantum interference in the process $\phi \rightarrow KSKL \rightarrow \pi^+\pi^-\pi^+\pi^-$: A test of quantum mechanics and CPT symmetry	Physics Letters B 642, 315-321 (2006)	4.771	80	Corresponding author
12	A. Di Domenico	Testing quantum-mechanics in the neutral kaon system at a ϕ -factory	Nuclear Physics B450: 293-324 (1995)	2.759	42	Single author
13	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)	4.771	170	KLOE internal referee of the analysis
14	A. Di Domenico et al [KLOE-2 collaboration]	Precision measurement of the $\eta \rightarrow \pi^+\pi^-\pi^0$ Dalitz plot distribution with the KLOE detector	Journal of High Energy Physics 05 (2016) 019	5.81	62	KLOE-2 internal referee of the analysis
15	A. Di Domenico et al [KLOE-2 collaboration]	Upper limit on the $\eta \rightarrow \pi^+\pi^-$ branching fraction with the KLOE experiment	Journal of High Energy Physics 10 (2020) 047	5.81	8	KLOE-2 internal referee of the analysis
16	A. Di Domenico et al [KLOE-2 collaboration]	Limit on the production of a light vector gauge boson in ϕ meson decays with the KLOE detector	Phys.Lett. B720 (2013) 111-115	4.771	131	
17	A. Di Domenico et al [KLOE calorimeter group]	The KLOE electromagnetic calorimeter	Nuclear Instruments & Methods in Physics Research A482, 364-386 (2002)	1.455	265	Contribution to detector design (in particular light guides, PMT and fibers choice),

						construction, test on prototypes, final commissioning, calibration and operation.
18	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)	4.59	220	Main contribution to the section of the proposal on QM and CPT tests.
19	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)	4.771	219	
20	A. Di Domenico et al [KLOE collaboration]	Precision measurement of $\sigma(e^+e^- \rightarrow \pi^+\pi^-\gamma)/\sigma(e^+e^- \rightarrow \mu^+\mu^-\gamma)$ and determination of the $\pi^+\pi^-$ contribution to the muon anomaly with the KLOE detector	Phys.Lett. B720 (2013) 336-343	4.771	108	
21	A. Di Domenico et al [KLOE-2 collaboration]	Search for dark Higgsstrahlung in $e^+e^- \rightarrow \mu^+\mu^-$ and missing energy events with the KLOE experiment	Phys. Lett. B 747 (2015) 365–372	4.771	49	
22	A. Di Domenico et al [KLOE-2 collaboration]	Limit on the production of a low-mass vector boson in $e^+e^- \rightarrow U\gamma$, $U \rightarrow e^+e^-$ with the KLOE experiment	Phys.Lett. B750 (2015) 633–637	4.771	132	
23	A. Di Domenico et al [KLOE-2 collaboration]	Limit on the production of a new vector boson in $e^+e^- \rightarrow U\gamma$, $U \rightarrow \pi^+\pi^-$ with the KLOE experiment	Phys.Lett. B757 (2016) 356-361	4.771	128	
24	A. Di Domenico et al [KLOE-2 collaboration]	Measurement of the $\phi \rightarrow \pi^0 e^+e^-$ transition form factor with the KLOE detector	Phys.Lett. B 757 (2016) 362–367	4.771	45	
25	A. Di Domenico et al [KLOE-2 collaboration]	Combined limit on the production of a light gauge boson decaying into $\mu^+\mu^-$ and $\pi^+\pi^-$	Phys. Lett. B784 (2018) 336–341	4.771	54	
26	A. Di Domenico et al [KLOE-2 collaboration]	Combination of KLOE $\sigma(e^+e^- \rightarrow \pi^+\pi^-\gamma(\gamma))$ measurements and determination of a μ ($\pi^+\pi^-$) in the energy range $0.10 < s < 0.95$ GeV ²	Journal of High Energy Physics 03 (2018) 173	5.81	116	
27	A. Di Domenico	Testing CPT Symmetry with Neutral K Mesons: A Review	Symmetry (2020), 12, 2063	2.713	7	Single author

28	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	4.771	72	
29	A. Di Domenico et al [KLOE collaboration]	A new limit on the CP violating decay $K_S \rightarrow 3\pi^0$ with the KLOE experiment	Phys.Lett. B723 (2013) 54-60	4.771	25	
30	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)	4.379	20	
31	A. Di Domenico, and 5 authors	Are Collapse Models Testable via Flavor Oscillations?	Found.Phys. 43 (2013) 813-844	1.144	17	
32	A. Di Domenico et al [KLOE-2 collaboration]	Measurement of the running of the fine structure constant below 1 GeV with the KLOE Detector	Phys.Lett. B767 (2017) 485-492	4.771	45	
33	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	4.771	118	
34	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)	4.771	70	
35	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)	4.771	76	
36	A. Di Domenico et al [KLOE collaboration]	A direct search for the CP-violating decay $K_S \rightarrow 3\pi^0$ with the KLOE detector at DA Phi NE	Physics Letters B 636,173-182 (2006)	4.771	29	
37	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)	4.771	123	
38	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)	4.771	9	
39	A. Di Domenico	Inverse Compton scattering of thermal radiation at LEP and LEP-200	Particle Accelerators 39, 137-146 (1992)		11	Single author Journal not existing anymore; the paper is present in the inSPIRES database
40	A. Di Domenico et al	Measurement and simulation of the neutron response and detection efficiency of	Nuclear Instruments and Methods in Physics Research A 581 (2007) 368-372	1.455	20	

		a Pb-scintillating fiber calorimeter				
41	A. Di Domenico et al	Precise measurement of prompt photon emission from 80 MeV/u carbon ion beam irradiation	Journal of Instrumentation 7 P03001 (2012)	1.415	24	
42	A. Di Domenico (editor)	Handbook on neutral kaon interferometry at a Phi-factory	Frascati Physics Series, Vol. 43, (2007) ISBN 978-8886409508			Book
43	A. Di Domenico et al [ATLAS collaboration]	Measurement of the muon reconstruction performance of the ATLAS detector using 2011 and 2012 LHC proton-proton collision data	European Physical Journal C74:3130 (2014)	4.59	188	
44	A. Di Domenico et al [ATLAS collaboration]	The ATLAS Experiment at the CERN Large Hadron Collider	Journal of Instrumentation 3 S08003 (2008)	1.415	11958	
45	A. Di Domenico et al. [Bellomo, M.; Branchini, P.; Ciapetti, G.; et al.]	The barrel-inner-large tracking chambers for the ATLAS muon spectrometer: Ready for installation	Nuclear Instruments and Methods in Physics Research A 573 (2007) 340-360	1.455	3	
46	A. Di Domenico et al.	Aging studies on atlas muon spectrometer Drift Tubes	Ieee Transactions on Nuclear Science 52 (2005) 2971-2976 DOI:10.1109/tns.2005.862903	1.679		
47	T. Durt, A. Di Domenico and B. C. Hiesmayr	Charge-conjugation-parity violation of neutral K-mesons in a temporal wave function model	Eur. Phys. J. Plus (2019) 134: 114	3.911	1	
48	A. Di Domenico et al. [DUNE collaboration]	DUNE Phase II: scientific opportunities, detector concepts, technological solutions	JINST 19 (2024) 12, P12005	1.415	7	

