

Curriculum vitae Dr. Alessia Di Pietro

1992 - Degree in Physics (Laurea) at University of Catania, Italy (110/110 Cum Laude);
1996- PhD degree at the University of Catania, Italy;
1996- Post-doc at the radioactive beam facility CRC in Louvain la Neuve (Belgium);
1997-1999: Research associate at the School of Physics and Astrophysics University of Edinburgh, UK;
January 2000- today: Permanent research staff at INFN- Laboratori Nazionali del Sud (LNS) in Catania.
From 2021, director of research (ricercatore livello I);
2013 - National habilitation as full professor for the Italian University system.

Institutional roles

- 2022 – today: Member of the NP-EEC nuclear physics program evaluation committee at TRIUMF, Vancouver, Canada;
- 2022 – today: EURO-LABS facility coordinator for LNS;
- 2022– today: EURO-LABS board member for INFN;
- 2020 – today: Head of the User Service of INFN- LNS;
- 2018 – today: Associate editor of the European Physical Journal A;
- 2018 – 2020: Member of the Isolde and n-TOF program evaluation committee (INTC) at CERN;
- 2007 – 2018: National responsible for the INFN-GR3 experiment LNS_Stream and subsequently of the LNSSTEAM2 experiment;
- 2007 – 2011 Scientific secretary of the Program Advisory Committee (PAC) of the INFN-Laboratori Nazionali del Sud laboratory;
- 2002 – 2011, Italian representative to the Isolde Collaboration Committee (ISCC) at CERN.

JCR articles and H-Index and invited talks

n. of JCR articles=207, total number of citations=2814, H-index=31
More than 30 invited talks and lectures at international conferences and schools

Referee of international scientific journals

Physical Review Letters, Physical Review C, European Physical Journal A, Nuclear Physics A, Nuclear Instrument and Methods A and B.

Short summary of the research activity

- Study of effects of the halo and cluster structures on reaction dynamics below and around the Coulomb barrier: the halo or cluster structure of some nuclei, where the ground state lies very close to the break-up threshold, may have an important effect on the reaction dynamics. Particularly interesting is the role played by the break-up channel on the different reaction mechanisms, such as elastic scattering, transfer, and fusion. At low energy, where the reaction dynamics develops over long periods of time, the coupling effects between the relative motion and the break-up channel can modify greatly the cross-sections of the various reaction processes in collisions induced by such nuclei. On this topic I have proposed various experiments at LNS and foreign laboratories such as Isolde-CERN, TRIUMF (Canada) and CRC Louvain la Neuve (Belgium) and I have given many invited talks at international conferences.
- Study of "exotic" cluster states in n-rich nuclei: n-rich nuclei may have a cluster structure where at least one of the clusters is an exotic nucleus. I was involved in various experiments to determine the existence of such structures in n-rich isotopes of B, Be, and C (spokesperson of experiments at LNS and TRIUMF in Canada), aiming to study such structures, giving various invited talks at international conferences.
- Study of reactions of astrophysical interest, induced by stable and radioactive beams, using direct and indirect methods.

- Gamma-particle coincidence measurements: study of gamma-multiplicity distributions for various reaction mechanisms; study of pre-equilibrium gamma-emissions due to the rapid equilibration of N/Z of the colliding system, and study of the dependence of the isospin purity/mixing from the GDR gamma-decay.

I collaborated to the development of various detection systems such as:

- CLAD, a system of silicon telescopes based on high granularity double-sided silicon strip detectors for measurements of charged fragments in experiments with stable and radioactive beams.
- LEDA and CD, a high granularity and large solid angle Silicon strip multi-detectors for measurements of charged fragments in experiments with radioactive ion beams.
- MONTE a multi-detector based on the use of monolithic ΔE -E silicon telescopes with low threshold for charge identification (300-400 keV A).
- TRASMA, an apparatus used for detecting charged fragments in coincidence with γ -rays in reactions between Heavy Ions at low and intermediate energies.
- Development of a "pulse-shape" technique for charge identification with Silicon detectors.

Dr. Gabriella CATALDI

SCIENTIFIC INTEREST: Astroparticle Physics, High Energy Physics, Innovative Detectors for Particle Physics, DAQ and electronics for Particle Detectors, Scientific Outreach end dissemination.

Current Position INFN (Lecce) “First Researcher” sezione di Lecce 01/01/2020-present

Scientific Education	Laurea degree in Physics - Università degli Studi di Lecce (now Università del Salento)	1990
	Dottorato di ricerca (PhD) in Physics - Università degli Studi di Bari	1995

Working Experience

July 1990: Laurea degree in Physics 110/110 Università degli Studi del Salento – (previously named “Università degli Studi di Lecce”) Thesis: “Studio di una inner shell per la Crystal Ball dei LNS di Catania”- Supervisor: Prof. R. De Leo;

March 1991 - October 1991: Guest Scientist –exp. E771 at Fermilab-Chicago USA - Supervisor: Prof. S. Conetti.

November 1991-February 1995: PhD program – Dottorato in Fisica “VII ciclo” “Dipartimento di Fisica dell’Università degli Studi di Bari”. Thesis: “Il problema della separazione π/μ nella camera a drift di KLOE”, (Supervisor Prof. P. Pistilli; co-supervisor: Dr. F. Grancagnolo)

February 1995: Discussion of PhD Thesis at Università degli studi di Bari.

March 1995- January 1996: Fellowship with “Istituto di Fisiologia Clinica del CNR (Pisa)”- reference person Prof. R. Guzzardi. Main topic: “Use of GEANT(3) for simulation PET 3D”.

October 1995: Final exam for achieving the PhD title.

February 1996-August 1997: Post-doc fellow - Graduiertenkolleg Elementarteilchenphysik Universitaet of Karlsruhe (Germany) – reference person Prof. Wolfgang Kluge. –Main topic: KLOE at LNF of INFN.

September 1997-March 2000: Researcher of the Deutsche Forschungsgemeinschaft at the Universitaet Karlsruhe (Germany). Main topic: KLOE at LNF of INFN.

April 2000- December 2019: Researcher at the Istituto Nazionale di Fisica Nucleare (sezione di Lecce)

January 2020- present: First Researcher at the Istituto Nazionale di Fisica Nucleare (sezione di Lecce)

Main Institutional responsibilities

- Coordinator of Software simulation and analysis- group KLOE Karlsruhe (Germany)– from February to march 2000
- Responsible of the computing system for the group KLOE Karlsruhe (Germany) – from February 1996 to march 2000
- Coordinator in ATLAS(CERN) of the reconstruction software of the muons in Object Oriented environment (Moore/MulD) and his applications in the environment of the Event Filter trigger- from January 2003 to September 2005
- Representative of researchers for INFN Lecce from March 2001 to February 2007
- Reference person for the staff training of INFN Lecce from March 4th 2011 to December 31st 2016
- Contact person for the Pierre AUGER Experiment at Tier1 CNAF (Main Computing Centre of INFN) from September 2010 (present).
- Scientific reference person for the Astroparticle Laboratory of sezione INFN Lecce from 2013 (present)
- Responsible of production and certification site of INFN Lecce for the SSD for the upgrade of the Auger Experiment from September 2016 until 2021.
- Scientific coordinator of the Activity related to Astroparticle and Neutrino Physics in the Commissione Scientifica Nazionale 2 of INFN from 12/04/2018 (present)
- Locale coordinator (sezione di Lecce) of Outreach Cosmic Rays activities from June 2018 until December 2021.
- Acting in the organizer team for the activities of outreach for INFN-Lecce to the European Researcher Night since 2018
- Referee of HERD_DMP in Commissione Scientifica Nazionale 2 of INFN since 4/07/2018
- Referee of SPB2 in Commissione Scientifica Nazionale 2 of INFN since 22/07/2019
- Referee of SWGO in Commissione Scientifica Nazionale 2 of INFN since 12/07/2021
- Referee of ISP_C3M in Commissione Terza Missione of INFN since 01/06/2022
- Member of the Commission of “Premio Bruno Rossi” of CSN2 in 2019.
- Local coordinator for Lecce of SABRE (CSN2) (since 2023)
- Local coordinator for Lecce of Art&Science across Italy (C3M) (since 2021)
- Coordinator for INFN Lecce of Outreach activities from 1st September 2020 (present)
- Member of the Collegio dei docenti of PhD in “Fisica e Nanoscienze” of Università del Salento since May 2020

Research Topics

Gabriella Cataldi is a First Researcher at INFN Lecce, working in the field of Astroparticle physics and Innovative Detectors. Her research activity focuses in experimental study of high energy particles carried out at accelerators and at cosmic ray observatories and is witnessed by more than 350 publications on referenced papers (h-index: 85 from ISI-Web Of Science). During the years she has been in large International Research Collaborations and spent part of her working activities in the Pierre Auger Observatory (Argentina), the GANIL (France), the CERN (CH), the KIT-FZK(Germany), as well as several USA institutions (Universities and International Laboratories).

Gabriella Cataldi has participated in a wide range of projects, spanning from physics analysis and software development to detector design, construction and operations. She is a member of the INFN national scientific committee for Astroparticle and Neutrino Physics (CSN2) since 2018.

She is an active member of the Pierre Auger collaboration. As such, she has contributed to several different aspects of detector development and operation: from the construction to the assessment and monitoring of the instrument performance and, the scientific data analysis.

She has been involved in the development of new techniques for the detection of cosmic rays and in the upgrade of the Pierre Auger observatory, which has been her main activity in recent years. Among the new detection techniques explored towards the upgrade were the studies to verify and characterize the emission of microwaves by electromagnetic showers in the air, with a specific collaboration on R&D projects, such as (AMY at the BTF of the LNF of INFN and MAYBE, at the Argonne Laboratory in USA). The Pierre Auger Observatory's upgrade program has as its main objective to establish the origin of the suppression of the flow of cosmic rays above 10^{19} eV, improving the measurement of chemical composition. To achieve this goal, she has participated in the analysis and possible elaboration of various proposals up to the finalization and implementation of the final upgrade proposal which envisages the installation of large scintillation detectors as a key element (Surface Scintillator Detector-SSD). These detectors are inspired by the criteria of robustness, ease of construction and low cost in view of the full coverage of the observatory's 1660 surface stations. With these detectors it will be possible to measure a combination of the electromagnetic and muonic components of the extensive air showers. Since 2015 she has gained a deep specific experience with plastic scintillation detectors and Wavelength Shifter fibers serving as team coordinator in the construction and calibration of the large surface detector (SSD) at the INFN-Lecce, which together with others European institutions have produced the detectors that are currently being installed and are starting taking data at the observatory in Argentina.

She followed and optimized all the production phases of the detectors, guiding and analyzing the main construction choices and techniques, as well as supervising many of the flows of materials, orders, up to the shipping phase of the detectors in Argentina.

Starting from her previous experience with the muon trigger detectors (RPC) of the ATLAS experiment, she made operational the RPC detector test station present in the INFN Lecce laboratory and disused by that time, allowing the test and certification of the scintillators SSD for AUGER with a complete external tracker performed with RPC detectors that is able to highlight any inhomogeneity in efficiency and uniformity of response. This type of analysis was only possible at two of the production sites: Lecce and Karlsruhe. As today, the production and testing of the detectors is successfully completed, fulfilling the specification within deadlines and budget.

Currently she serves as reference person for the collaboration for the operation and installation of the SSD detectors in the experimental area of the observatory in close collaboration with the local team of the Pierre Auger Observatory for the supervision and control of the installation and the related issues. She has actively participated in the first installation and commissioning campaigns, also following and optimizing the pre-assembly operations in the observatory. She is in the working groups for checking the conditions and characteristics of the detectors.

Her work with Auger analysis groups concerns the analysis of hybrid data in particular the study of anisotropies, to composition measurements and to the determination of the energy spectrum of the primaries, focusing above all on purely experimental aspects of the detection, on the criteria for selecting events and on the trigger configurations. The hybrid event sample, combining the two detection techniques, is particularly rich in information. The response of the hybrid detector strongly depends on energy and distance from the fluorescence telescope but also on the particular atmospheric and data taking conditions. To properly account for the various configurations and their temporal variability, an exposure calculation was developed based on simulated event samples reproducing the exact conditions of the experiment.

To carry out this type of simulation in Auger, a particular software configuration is required which has been configured at the CNAF which is the Italian computer center for the Auger experiment and of which she is the contact person. To evaluate the "hybrid" events it is in fact necessary to accurately determine the exposure which is based on a simulation of the propagation of the showers in the "real" detector, i.e. a detector that takes into account the data taking conditions of events. CNAF was the only infrastructure of the GRID type in which a "real" detector run could be realized, i.e. by accessing the Databases containing the Monitoring variables characterizing the environment and the detector. She has participated in the definition and implementation of this particular setup, conceived and created in collaboration with the CNAF staff, initially using WNodes (CNAF virtualization system) and subsequently an ad hoc configuration on a subset of calculation nodes. Furthermore, since the beginning of her activity in Auger she has developed a calibration and test system for photomultiplier tubes. Initially this test system was restricted to the characterization of PMTs of the type used for the surface detector with the aim of studying the saturation characteristics and signal analysis. Subsequently, with the development of ideas related to the upgrade proposals (Beyond 2015), the test station was extended to include the development of different type PMTs for use in surface detectors and/or as reading elements for scintillators. (SSD), or for SiPMs characterization and test.

In the previous years (from 2000 to 2009) she has developed specific competences working for the finalization of the cosmic ray test stand in Lecce used for the certification of the Resistive Plate Chambers that are part of the muon trigger of the ATLAS experiment at CERN these included certification and test, reconstruction and trigger as well as DAQ. Prior my work at INFN she has developed specific competences mainly on gas detectors (drift chambers, multiwire proportional chambers, drift tubes) as well as trigger and simulation environment.

Outreach and dissemination

During her career, she has always been involved in outreach and dissemination activities including seminars at schools, guiding visits in the INFN laboratories and coordination of several projects interconnecting schools and general public with the science of interest of INFN and also on more transversal activities such as the interconnection between science and art, and the usage and analysis of scientific data for general users. She participates to the EU-funded Project ERN_APULIA (from 2018 to present) with the aim to bring the Apulian population close to the academic research world. She is the coordinator for the outreach activities related to Cosmic Rays in Lecce since June 2018 and she is a member of the INFN national committee for outreach activities (CC3M) since September 2020. Since 2021 she coordinates in Lecce the activity of Art & Science Across Italy, a project of INFN for students of High School that interconnect Science and Art.

Teaching, Supervision of thesis and other duties- Gabriella Cataldi has been regularly serving as a teaching assistant at the University of Salento, and previously at the University of Karlsruhe, since 1997. The main teaching topic included: Experimental methods, Advanced laboratory, Data analysis and Simulation, Object Oriented Programming. She has supervised several theses

(Laurea and PhD). She is a member of “Collegio docenti di dottorato in Fisica e Nanoscienze dell’Università del Salento” since May 2020.

Referee

She is a referee for IEEE Transactions on Nuclear Science (TNS) since 2020.

Inside the national scientific committee for Astroparticle and Neutrino Physics of INFN she acts as scientific referee for the projects: SPB2, DAMPE, HERD and SWGO, and for the outreach project of INFN ISP_C3M.

Autorizzo il trattamento dei miei dati personali ai sensi del Dlgs 196 del 30 giugno 2003

Dott. Tommaso Lari

EDUCATION

Master Degree in Physics, University of Bologna, 1998. Thesis title : *Ricerca di monopoli magnetici con il rivelatore MACRO al Gran Sasso*. Score : 110 cum laude.

PhD in Physics, University of Milano, 2001. Thesis title : *Study of silicon pixel sensors for the ATLAS Detector*

CURRENT POSITION

Senior Researcher, Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Milano (Italy), 2020-Present

PREVIOUS POSITIONS

Researcher, Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Milano (Italy), 2005-2019 (limited duration contract 2005-2009, permanent contract 2009-2019)

Fellowship (Assegno di Ricerca), Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Milano (Italy), 2002-2005

Fellowship, University of Bonn (Germany), January-August 2002

PARTICIPATION IN INTERNATIONAL COLLABORATION AND PROJECTS

ATLAS, 1999-present. Experiment for the study of elementary particles in high energy proton-proton collision data.

RD50, 2002-2004. Collaboration for the development of radiation hard silicon detector.

MACRO, 1997-1999. Underground experiment for the study of cosmic radiation and the search for astrophysics point sources and magnetic monopoles.

CREMA, since September 2023. Project financed on the PRIN 2022 research grant program, for the study of beam extraction for hydrotherapy synchrotrons with silicon bent crystals.

LEADERSHIP POSITIONS

Team leader of **ATLAS Milano**, ca. 25 FTE physicists, 2020-Present

Coordination of **ATLAS Simulation** working group, 2021-2023

Coordination of the **ATLAS ITk pixel offline software** working group, 2020-2021

Coordination of the **ATLAS Fast Chain Simulation** working group, 2016-2020

Coordination of the **ATLAS SUSY electroweak** working group, 2017-2018

Coordination of the **ATLAS Italia physics analyses**, 2016-2018

Coordination of the **ATLAS Supersymmetry** working group, involving some 300 researchers and students, 2014-2016.

Coordination of the **ATLAS SUSY third generation** working group, 2011-2013

Coordination of the **ATLAS SUSY background** forum, 2009-2010

INSTITUTIONAL RESPONSIBILITIES

Referee for the MUONE experiment for INFN National Scientific Commission 1, 2019-Present

Member of the selection committee for INFN fellowships in Milano, 2017-2021

Member of the coordination of the PhD School of Physics in Milano (Collegio Docenti), 2014-Present

RESEARCH ACTIVITY SUMMARY

Since 1999, most of my research activity has taken place within the ATLAS experiment. It developed along two main lines : the analysis of collision data to perform physics measurements and search for new phenomena, and the development of software related to the simulation of the detector response and the analysis of test beam data.

For the first line, I prepared the strategy of analysis of the future LHC data for searches of supersymmetry (2003-2009), then performed several searches resulting in a direct contribution to the analysis of Run 1 and Run 2 data published in a dozen papers (2009-2023) as well in coordinating physics working groups. I also worked on the first measurements with ATLAS data of the top quark pair production cross section and charge asymmetry (2010-2011).

For the second line, I worked on the analysis of pixel test beam data (1999-2009), participated in the commissioning of the detector with cosmic data after installation, and developed the software for the future upgraded pixel detector. I also worked on the development of the simulation software of the experiment (2016-2023) for the preparation of the Run 3 MonteCarlo dataset as well as to meet the challenges of the LHC computing after the future luminosity upgrade.

PUBLICATIONS

I am author of more than 1,100 publication on peer reviewed international scientific papers, with an H-index of 116 [source: Web of Science].

SUPERVISION OF GRADUATE AND DOCTORAL STUDENTS

I have been the supervisor of 14 master thesis and 5 PhD thesis.

CURRENT POSITION

Senior researcher (I ricercatore) at the Istituto Nazionale di Fisica Nucleare since Jan. 1st 2020. Research activity in the BESIII experiment (IHEP, Beijing) and Future Circular Collider (CERN).

- Local Responsible of the INFN projects: BESIII (until Jul 2023), uRANIA-V, RD_FCC e RD51
- Member of the BESIII Technical Board
- Ferrara unit coordinator of the European project, FET “MSCA-RISE H2020”
- Ferrara unit coordinator of the European project Eurizon and Italian representative the the General Assembly
- Ferrara unit coordinator of the European project Aidainnova and representative for the Italian software WP
- Ferrara coordinator of CSN1-INFN

ASN: 02/A1 Prima e Seconda Fascia on 05/10/2018

H index 94 (source Web of Science 20 aprile 2022)

PREVIOUS EXPERIENCES

May 2015 – Dec 2019

Researcher at Istituto Nazionale di Fisica Nucleare – Sez. di Ferrara

Research activity in the BESIII experiment (IHEP, Beijing)

- System coordinator of the CGEM Inner Tracker for BESIII
- Ferrara unit coordinator of the European project, BESIIICGEM “MSCA-RISE H2020”
- Quarkonium analysis at BESIII

May 2010 – May 2015

Fixed term researcher at Istituto Nazionale di Fisica Nucleare

Research activity in the BaBar experiment (SLAC, USA), SuperB (LNF, Italia) and BESIII (IHEP, PRC).

- Cylindrical GEM Inner Tracker for BESIII
- SuperB muon detector
- Quarkonium analysis at BaBar

Nov 2007 – May 2010

Post Doc at INFN Ferrara

Research activity in the BaBar experiment (SLAC, USA).

- System manager of the BaBar muon system
- Quarkonium analysis at BaBar
- Data Quality manager at BaBar

Nov 2003 – Nov 2007

Post Doc at Università degli Studi di Ferrara – Physics department

Research activity in the BaBar experiment (SLAC, USA).

- Development and construction of the BaBar muon system
- Quarkonium analysis at BaBar
- BaBar Run coordinator

TRAINING

Nov 2000 – Feb 2004

PhD in Physics @ Ferrara University

- Research activity in the E835 experiment at Fermilab. PhD Thesis: “Study of the $\phi\phi\gamma$ final state in the E835 experiment at Fermilab.”

Nov 1995 – Feb 2000

Master degree in Physics @ Ferrara University

- Research activity in the E835 experiment at Fermilab: “Studio dello stato finale $J/\psi \pi^+\pi^-$ nei decadimenti del Charmonio.”

OTHER INFO

Selected talks

- Plenary review “Charmonium-like states” alla XI conferenza internazionale Heavy Quarks and Leptons, 2012.
- Invited seminar on “T violation measurement at BaBar” at Istituto Nazionale di Astrofisica (INAF), Bologna 2013.
- Invited lecture on “Silicon Photo-Multiplier Radiation Hardness Tests with a White Neutron Beam” ANIMMA conference 2013.
- Plenary talk “Charm Mixing and CP Violation at B-Factories” at International workshop on e+e- collisions from Phi to Psi 2013, Roma, 2013.
- Plenary talk “A Cylindrical GEM Detector with Analog Readout for the BESIII Experiment” at MPGD 2015.
- Talk “uRANIA: a μ Rwell Advanced Neutron Identification Apparatus” at International Conference on Technology and Instrumentation in Particle Physics - May 24-28, 2021.
- Plenary talk “Exotic Charmonium at BESIII” at IPA2022- Wien, Sep 5-9, 2022.

Teaching

- “Introduction to particle accelerators and detectors” (6 CFU) Master degree in Physics, since A.A. 2019/20
- “Advanced detection techniques” PhD lecture series since 2015.
- “Strong interactions” (6 CFU) Master degree in Physics, A.A. 2016/17 e 2017/18.
- “High Energy Physics Lab” (12 CFU) A.A. 2010/2011 e 2011/2012 e 2012/13.
- “Programmazione e Laboratorio di Programmazione” (12 CFU), Bachelor degree in computing science 2009/2010

Selected Bibliography

- Ablikim M, et al., Precise Measurement of the $e^+e^- \rightarrow \pi^+\pi^- J/\psi$ Cross Section at Center-of-Mass Energies from 3.77 to 4.60 GeV (2017). PHYSICAL REVIEW LETTERS, vol. 118, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.118.092001
- Ablikim M, et al., Measurements of Absolute Hadronic Branching Fractions of the Λ_b^0 Baryon (2016). PHYSICAL REVIEW LETTERS, vol. 116, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.116.052001
- Ablikim M, et al., Study of $e^+e^- \rightarrow \omega \chi_{cJ}$ at center of mass energies from 4.21 to 4.42 GeV (2015). PHYSICAL REVIEW LETTERS, vol. 114, p. 092003, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.114.092003
- Lees JP, et al. BaBar Collaboration (2012). Evidence for an Excess of $(B)^{\pm} \rightarrow D^{(*)} \tau^{\pm} \nu_{\tau}$ Decays. PHYSICAL REVIEW LETTERS, vol. 109, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.109.101802
- B. Aubert, et al., BaBar Collaboration (2010). Searches for Lepton flavor violation in the decays $\tau^+ \rightarrow e^+ \gamma$ and $\tau^+ \rightarrow \mu^+ \gamma$. PHYSICAL REVIEW LETTERS, vol. 104, p. 021802-1-021802-8, ISSN: 1079-7114, doi: 10.1103/PhysRevLett.104.021802
- B. Aubert, et al., BaBar Collaboration (2009). Precise Measurement of the $e^+e^- \rightarrow \pi^+\pi^-(\gamma)$ Cross Section with the Initial State Radiation Method at BABAR.

PHYSICAL REVIEW LETTERS, vol. 103, p. 231801-1-231801-7, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.103.231801

- B. Aubert, et al., BaBar Collaboration (2008). Observation of the bottomonium ground state in the decay $\Upsilon(3S) \rightarrow \gamma \eta(b)$. PHYSICAL REVIEW LETTERS, vol. 101, p. 071801-071801-7, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.101.071801
- B. Aubert, et al., BaBar Collaboration (2007). Evidence for D^0 - \bar{D}^0 mixing. PHYSICAL REVIEW LETTERS, vol. 98, p. 211802-1-211802-7, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.98.211802
- B. Aubert, et al., Evidence of a broad structure at an invariant mass of 4.32 GeV/c² in the reaction $e^+e^- \rightarrow \pi^+\pi^-\psi(2S)$ measured at BABAR (2007). PHYSICAL REVIEW LETTERS, vol. 98, p. 212001-1-212001-7, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.98.212001
- B. Aubert, et al., BaBar Collaboration (2005). Observation of a broad structure in the $\pi^+\pi^-\psi$ mass spectrum around 4.26 GeV/c². PHYSICAL REVIEW LETTERS, vol. 95, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.95.142001
- B. Aubert, et al., BABAR COLLABORATION (2004). Observation of the decay $B \rightarrow J/\psi \eta K$ and search for $X(3872) \rightarrow J/\psi \eta$. PHYSICAL REVIEW LETTERS, vol. 93, p. 041801-1-041801-7, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.93.041801
- B. Aubert, et al., BABAR COLLABORATION (2003). Observation of a narrow meson state decaying to $D^+ \pi^0$ at a mass of 2.32 GeV/c². PHYSICAL REVIEW LETTERS, vol. 90, ISSN: 0031-9007, doi: 10.1103/PhysRevLett.90.242001

Il sottoscritto acconsente, ai sensi del Regolamento UE 2016/679 e del D.lgs. 196 del 30 giugno 2003, al trattamento dei propri dati personali. Il sottoscritto acconsente alla pubblicazione del presente curriculum sul sito dell'Università di Ferrara.

Ferrara, December 1°, 2023

Gianluigi Cibirnetto

CURRICULUM VITAE

Dr. Luca Latronico

Sviluppo rivelatori per osservatori di fisica astro-particellare. Lavoro ai problemi dell'origine dei raggi cosmici e della natura della materia oscura come membro di grandi collaborazioni internazionali - ET (dal 2022), eXTP (dal 2020), IXPE (dal 2015), Fermi (2001-2022), Auger (2011-2016).

Incarichi

- Membro del Comitato Nazionale di Trasferimento Tecnologico INFN, dal 2023
- Spoke Leader e referente INFN per Partenariato Esteso SPACE IT UP, dal 2022
- Membro del Project Office di Einstein Telescope, dal 2022
- Membro del Comitato di Review INFN di DarkSide, dal 2022, e referee CSN2, dal 2016
- Membro del Comitato Nazionale per il Project Management INFN, dal 2020
- Docente a contratto dell'Università di Torino, Master in Metodi Matematici e Fisici per lo spazio, dal 2019
- Membro Comitato scientifico di ApritiCielo e Planetario INFINI.TO, dal 2018
- Spokesperson per Fermi presso il CERN Recognized Experiment Committee, dal 2016
- Referee CSN2 per l'esperimento DarkSide, dal 2016
- Co-Investigatore della missione Imaging X-ray Polarimetry Explorer (IXPE), dal 2017

Precedenti posizioni

2019-2020: Primo ricercatore INFN, sezione di Torino

2011-2019: Ricercatore INFN, sezione di Torino

2005-2011: Ricercatore INFN, t.d. (art. 23), sezione di Pisa, esperimento Fermi

2001-2005: Assegnista di Ricerca, Dip. di Fisica dell'Università di Pisa, esperimento GLAST

2001: collaboratore presso il Dip. di Fisica dell'Università di Pisa, esperimento GLAST

Incarichi precedenti e ruoli nelle collaborazioni internazionali

INFN

- 2015-2020: Responsabile nazionale per Fermi nella Comm.ne Scientifica 2 (CSN2)
- 2013-2020: Fondatore e responsabile locale del gruppo Fermi presso INFN Torino
- 2013-2020: Responsabile scientifico dell'accordo ASI/INFN Fermi-2013-022-R.1
- 2016-2021: Fondatore e responsabile locale del gruppo IXPE/XRO presso INFN Torino
- 2015-2021: Coordinatore di Gruppo 2 INFN per la sezione di Torino
- 2017-2022: Referee CSN2 per l'esperimento GAPS
- 2017-2023: Chair del Scientific Board del progetto europeo NEWS (RISE-grant-734303)
- Commissario di concorso INFN, 2022/LNS-DT-24973, 2017/TO-C7-706 (presidente), 2016/TO-R3-631 (presidente)
- relatore e co-relatore di tesi triennali, magistrali e di dottorato

IXPE

- 2018-oggi: IXPE Detector Unit Project Manager

- 2016-oggi: Italian Instrument Scientist

Fermi-LAT

- 2016-oggi: membro del Senior Scientist Advisory Committee, con incarichi di *ombudsperson* e *mentor*
- 2012-oggi: membro permanente del Publication Board
- 2013: *Analysis Coordinator*
- 2012: *Deputy Analysis Coordinator*
- 2011-2012: coordinatore del gruppo di scienza *Dark Matter and New Physics*
- 2009-2012: membro dello *Speakers' Bureau*
- 2007-2009: coordinatore del gruppo di scienza *Calibration and Analysis Methods*
- 2006: *run coordinator* dei test su fascio dell'unità di calibrazione (CU) del LAT presso gli acceleratori CERN-PS e GSI (Darmstadt)
- 2006-2009: coordinatore del gruppo di analisi dei risultati dei test su fascio della CU
- 2007-2009: responsabile dei due progetti *Event Display* e *Grafica e Calibrazione del LAT* dell'accordo ASI-INFN I/017/07/0GLAST
- 2005-2007: responsabile del progetto *Sviluppo dei software e dei database di costruzione e test* dell'accordo ASI-INFN I/R/058/04/0
- 2001-2005: membro del team di project management del tracciatore del LAT

Auger

- 2014-2016: task leader per *PMT & Electronics* per l'*Upgrade Task Force*
- 2014-2016: responsabile del Work Package *Calibration and Control Tools* nel task *Surface Detector Electronics Upgrade*

Studi e Formazione

La mia formazione si è svolta nell'ambito della fisica sperimentale delle alte energie sviluppando rivelatori di radiazione a gas per l'apparato tracciatore dell'esperimento CMS a LHC.

- 2000: dottorato di ricerca in Fisica, Università di Genova. Tesi: *Il tracciatore a micro strip gas chamber di CMS: sviluppo di un rivelatore ad alta risoluzione per la ricostruzione di tracce ad alta luminosità*. Relatori: Prof. M. Bozzo, Prof. M. Calvetti
- 1997: laurea in Fisica, Università di Pisa, votazione di 110/110 e lode. Tesi: *Sviluppo di rivelatori MSGC per l'esperimento CMS*. Relatore: Prof. R. Bellazzini
- 1998: studente al XI Seminario Nazionale di fisica nucleare e subnucleare, Otranto
- 1995: studente estivo presso il Fermi National Accelerator Laboratory (FNAL-Chicago)
- 1998: certificazione GMAT, votazione 610/800
- 1992: diploma di Maturità Scientifica, Liceo Vieusseux di Imperia, votazione 60/60

Pubblicazioni scientifiche e conferenze

Autore di ~340 pubblicazioni su riviste internazionali, delle quali autore principale per ~30 lavori. Membro di comitati organizzatori di conferenze (Gravi-Gamma, ECRS, TAUP, Fermi Symposium) e scuole internazionali (ISAPP). Relatore di più di 30 contributi a conferenze, di cui ~20 su invito.

Attività di terza missione

Promozione dell'attività scientifica dell'INFN, di Fermi e IXPE attraverso eventi pubblici (Pint of Science, Notte dei Ricercatori, Giovedì-Scienza, RAI-Memex, Planetario di Torino), articoli divulgativi (Le Stelle, Asimmetrie, comunicati stampa INFN), attività per studenti (Fermi MasterClass e PCTO).