

Leonida Antonio GIZZI
CONSIGLIO NAZIONALE DELLE RICERCHE
ISTITUTO NAZIONALE DI OTTICA (CNR-INO)
AREA DELLA RICERCA DI PISA
Via G. Moruzzi, 1 - 56124, Pisa, ITALY

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RESEARCHGATE: <https://www.researchgate.net/profile/Leonida-Gizzi>

ORCID ID: <https://orcid.org/0000-0001-6572-6492>

SCOPUS Author ID: 7003405601

LOOP Profile: 217114

GOOGLE Scholar: H-index: 42

WORK EXPERIENCE

- Research Director (Dirigente di Ricerca) at Istituto di Ottica (INO) - CNR, Pisa (current)
- Head of the Pisa Unit of Istituto Nazionale di Ottica (<http://www.pi.ino.cnr.it/pisa/>) (current)
- Director of the Intense Laser Irradiation Laboratory (current)
- Istituto Nazionale di Ottica, Consiglio Nazionale delle Ricerche <http://www.cnr.it>

Business or sector: PUBLIC RESEARCH

RESPONSIBILITY OF RESEARCH PROJECTS (a small sample)

> EU H2020 - Innovation Fostering in Accelerator Science and Technology (I.FAST), Task Leader on Laser Driver Development; > EU H2020 - Compact European Plasma Accelerator with Superior Beam Quality (EuPRAXIA), Research Infrastructures, Head of Laser Development;
> Chair of the *Beam Plasma and Inertial Fusion Section* (BPIF), Plasma Physics Division, European Physical Society (EPS); > EU FP7 - High Power laser Energy Research Facility (HIPER), Research Infrastructures, Head of IPCF- CNR research unit; > INFN Commissione Nazionale V, Progetto FAST - Femtosecond timing and sync, Local Coordinator - Sez. Pisa; > EFS-COST Action MP0601 "Short Wavelength Laboratory Sources" (2007 to 2010), National representative; > MIUR-FISR- national project on *Compact Ultrafast X-ray Sources*, National Coordinator, 2003-2007; > EU FP5 European training network XPOSE, *X-ray probing of the structural evolution of matter*, Head of IPCF-CNR node, 2000-2004; > ASI Italian Space Agency, *Laue-diffraction optics for gamma-ray astronomy*, Scientist in charge of Pisa research unit, 2000-2001; > CNR institutional projects on *Physics of dense plasmas and X-ray sources*, Scientist in charge, 1997-2000; > CLAIRE International Project, A balloon borne Laue-diffraction Gamma-ray telescope, 1997-2000; > ASI project, The LAPEX Experiment, Scientist in charge, 1996-1997;

OTHER RESEARCH PROJECTS (a small sample)

> EC European training network GAUS-XRP II, Generation and application of ultrashort, laser-produced X-ray pulses, 1996-2000; > EC European training network SILASI, Superintense Laser Solid Interactions, 1996-2000; > EC European training network GAUS-XRP I, Generation and application of ultrashort, laser-produced X-ray pulses, 1993-1995;

> CNR institutional projects on *High power density laser-matter interactions*, 1989-1996.

CONFERENCES AND WORKSHOPS

More than 60 oral and invited presentations at international conferences and workshops.

PUBLICATIONS

Author of more than 300 publications (Source ISI Web of Science) including more than 215 articles on **refereed** (JCR) journals (as of Aug 2022) with more than 5200 citations. H-Index: 42 (G. Scholar) H-Index: 34 (ISI WOS)

EDUCATION AND TRAINING

PhD: (1990-2004) 1994: Ph.D. in Plasma Physics and D.I.C (Imperial College of Science technology and Medicine, University of London);

Laurea: (1983-1989) Laurea in Fisica, Università degli studi di Pisa, Laurea in Fisica (Università di Pisa);

OTHER POSITIONS, SCHOLARSHIPS AND AWARDS: EU Marie Curie Fellowship at Imperial College, London, UK, 1995 • Scholarship of the Italian Space Agency at IFAM-CNR, Pisa, 1994 • Scholarship of the National Research Council at Imperial College of London, UK, 1993-94 • Research Associate at Imperial College, London, UK, 1993 • Scholarship of the National Research Council at IFAM-CNR, Pisa, 1991-92 • Scholarship of the National Research Council at Imperial College of London, UK, 1991.

MAIN RESEARCH FIELDS: High Power Laser Interaction with Matter • X-Ray Emission From Laser Produced Plasmas – X and Gamma Ray Generation and Applications • High Energy Astrophysics.

RESEARCH INTERESTS: Ultra Short, Ultraintense Laser Plasma Interactions • E.m. wave propagation • Atomic physics of ionised species • Collective phenomena and instabilities • Inertial confinement fusion related studies • X-ray generation and characterisation • Particle acceleration in laser-matter interactions • X-ray and gamma ray optics.

PERSONAL SKILLS

Mother tongue(s)	Italian
Other language(s)	English

ADDITIONAL INFORMATION

- A. Borghini , C. Vecoli, L. Labate, D. Panetta, MG Andreassi, LAGizzi. **FLASH ultra-high dose rates in radiotherapy: preclinical and radiobiological evidence.** *Int J Radiat E* **98**, 127-135 (2022).
- L. Labate, D. Pallà, D. Panetta, F. Avella, F. Baffigi, F. Brandi, F. Di Martino, L. Fulgentini, A. Giulietti, P. Köster, D. Terzani, P. Tomassini, C. Traino, L.A.Gizzi, **Toward an effective use of laser-driven very high energy electrons for radiotherapy: Feasibility assessment of multi-field and intensity modulation irradiation schemes,** *Scientific Reports* **10**, 17307 (2020).
- L. A. Gizzi, G. Cristoforetti, F. Baffigi, F. Brandi, G. D'Arrigo, A. Fazzi, L. Fulgentini, D. Giove, P. Koester, L. Labate, G. Maero, D. Pallà, M. Romé, M. Russo, D. Terzani, and P. Tomassini, **Intense proton acceleration in ultrarelativistic interaction with nanochannels,** *Phys. Rev. Research* **2**, 033451 (2020).
- P. Tomassini, D. Terzani, F. Baffigi, F. Brandi, L. Fulgentini, P. Koester, L. Labate, D. Pallà and L. A. Gizzi, **High-quality 5 GeV electron bunches with resonant multi-pulse ionization injection,** *Plasma Physics and Contr. Fusion*, **62**, 014010 (2020).
- L.A. Gizzi, L. Labate, F. Baffigi, F. Brandi, G.C. Bussolino, L. Fulgentini, P. Koester, D. Pallà, F. Rossi, **Laser-plasma acceleration of electrons for radiobiology and radiation sources,** *Nuclear Instruments and Methods in Physics Research* **B355**, 241–245 (2015).
- P. Ferrara, M. Ciofini, L. Esposito, J. Hostaša, L. Labate, A. Lapucci, A. Piri, G. Toci, M. Vannini, and L. A. Gizzi, **3-D numerical simulation of Yb:YAG active slabs with longitudinal doping gradient for thermal load effects assessment,** *Optics Express* **22**, 5375–5386 (2014).
- G. Cristoforetti, E. Tognoni and L.A. Gizzi, **Thermodynamic equilibrium states in laser-induced plasmas: From the general case to laser-induced breakdown spectroscopic plasmas,** *Spectrochimica Acta Part, B* **90**, 22 (2013).
- G. Sarrì, A. Macchi, C. A. Cecchetti, S. Kar, T. V. Liseykina, X.H.Yang, M.E. Dieckmann, J. Fuchs, M. Galimberti, L.A. Gizzi, R. Jung, I. Kourakis, J. Osterholz, F. Pegoraro, A.P.L. Robinson, L. Romagnani, O. Willi, M. Borghesi, **Dynamics of Self-Generated, Large Amplitude Magnetic Fields Following High-Intensity Laser Matter Interaction,** *Phys. F Letters*, **109**, 205002 (2012).
- L.A. Gizzi, S. Betti, E. Förster, D. Giulietti, S. Höfer, P. Köster, L. Labate, R. Lötzsch, A. P. L. Robinson, and I. Uschmann, **Role of resistivity gradient in laser-driven ion acceleration** *Phys. Review ST Acc. Beams*, **14**, 011301 (2011).
- F. Zamponi, A. Lübcke, T. Kämpfer, I. Uschmann, E. Förster, A. P. L. Robinson, A. Giulietti, P. Köster, L. Labate, T. Levato, and L.A. Gizzi, **Directional Bremsstrahlung from a Ti La Produced X-Ray Source at Relativistic Intensities in the 3–12 keV Range,** *Phys. Rev. Lett.*, **105**, 085001 (2010).
- S. Betti, C. A. Cecchetti, E. Förster, A. Gamucci, A. Giulietti, D. Giulietti, T. Kämpfer, P. Köster, L. Labate, T. Levato, A. Lübcke, I. Uschmann, F. Zamponi, and L. A. Gizzi, **On the effect of rear-surface dielectric coatings on laser-driven proton acceleration,** *Phys. Plasmas*, **16**, 100701 (2009).
- L.A. Gizzi, A. Bacci, S. Betti, C.A. Cecchetti, M. Ferrario, A. Gamucci, A. Giulietti, D. Giulietti, P. Koester, L. Labate, V. Petrillo, L. Serafini, P. Tomassini, C. Vaccarezza, **A integrated approach to ultraintense laser sciences: the PLASMON-X project,** *Europ. Phys. Journal - Special Topics*, **175**, 3-10 (2009).
- L. A. Gizzi, S. Betti, M. Galimberti, A. Giulietti, D. Giulietti, L. Labate T. Levato, P. Tomassini, P. Monot, T. Cecocotti, P. De Oliveira, and Ph. Martin, **Tracking propagation of ultrashort intense laser pulses in gases via probing of ionization,** *Phys. Rev. E* **79**, 056405 (2009).
- K. L. Lancaster, J. Pasley, J. S. Green, D. Batani, S. Baton, R. G. Evans, L. Gizzi, R. Heathcote, C. Hernandez Gomez, M. Koenig, P. Koester, A. Morace, I. Musgrave, P. A. Norr F. Perez, J. N. Waugh, and N. C. Woolsey **Temperature profiles derived from transverse optical shadowgraphy in ultraintense laser plasma interactions at 6x1020 W cm-2,** *Phys. Plasmas* **16**, 056707 (2009).
- A. Giulietti, N. Bourgeois, T. Cecocotti, X. Davoine, P. D'Oliveira, M. Galimberti, J. Galy, A. Gamucci, D. Giulietti, L.A. Gizzi, D.J. Hamilton, E. Lefebvre, L. Labate, J.R. Marquès, P. Monot, H. Popescu, F. Réau, G. Sarrì, P. Tomassini, P. Martin **Intense gamma-ray source in the Giant Dipole Resonance range driven by 10- TW laser pulses,** *Phys. Rev. Lett.* **10** 105002 (2008). - S. Kar, M. Borghesi, C. A. Cecchetti, L. Romagnani, F. Ceccherini, T. V. Liseykina, Y.A. Macchi, R. Jung, J. Osterholz, O. Willi, M. Galimberti, L.A. Gizzi, A. Schia AND R. Heathcote, **Ultrafast electric field dynamics in a laser-plasma channel,** *New J. Phys.* **9**, 402 (2007). - L.A. Gizzi, A. Giulietti, D. Giulietti, P. Koester, L. Labate, T. Levato, F. Zamponi, A. Luebcke, T. Kaempfer, I. Uschmann, E. Foerster, A. Antonucci, D. Batani, **Observation of electron transport dynamics in high intensity laser interactions using multi-ene monochromatic X-ray imaging,** *Plasma Phys. Control. Fusion* **49**, B221-B221 doi: 10.1088/0741-3335/49/12B/S19 (2007).
- L. Labate, A. Giulietti, D. Giulietti, P. Koester, T. Levato, L.A. Gizzi, F. Zamponi, A. Luebcke, T. Kaempfer, I. Uschmann, E. Foerster, **Novel X-ray multi-spectral imaging of ultraintense laser plasmas by a single- photon CCD based pinhole camera ,** *Rev. Sci. Instrum.* **78**, 103506, (2007)
- S. Atzeni, D. Batani, L.A. Gizzi, **HIPER: un laser europeo per studi di fusione inerziale,** *Il Nuovo Saggiatore*, **23**, (2007).
- M. Galimberti, **Probe transit effect in interferometry of fast moving samples,** *J. Opt. Soc. Am. A - Optics Image Science and Vision*, **24**, 304-310 (2007).
- Borghesi M, Kar S, Romagnani L, Toncian T, Antici P, Audebert P, Brambrink E, Ceccherini F, Cecchetti CA, Fuchs J, Galimberti M, Gizzi LA, Grismayer T, Lyseikina T, Ju , Macchi A, Mora P, Osterholz J, Schiavi A (Schiavi, A.), Willi O, **Impulsive electric fields driven by high-intensity laser matter interactions,** *Laser Part. Beams*, **25**, 161-167 (2007).
- L. Labate, M. Galimberti, A. Giulietti, D. Giulietti, P. Köster, P. Tomassini, L.A. Gizzi, **Study of forward accelerated fast electrons in ultrashort Ti Kalpha sources,** *Appl. Phys. B* **86**, 2 233 (2007) .
- G. Palladino, A. Basili, G. Di Cocco, T. Franceschini, G. Landini, S. Silvestri, A. barbini, M. Galimberti, L.A. Gizzi, **Design of a high update-rate star sensor for arcsec-level attitude determination from balloon-borne X/gamma astronomy platforms,** *Appl. Phys. B* **86**, 229-233 (2007) .
- L.A. Gizzi, M. Galimberti, A. Giulietti, D. Giulietti, P. Köster, L. Labate, P. Tomassini, Ph. Martin, T. Cecocotti, P. D'Oliveira, P. Monot, **Femtosecond interferometry of propagation of a laminar ionization front in a gas,** *Phys. Rev. E* , 144609PRE, (2006).
- P. Tomassini, A. Giulietti, D. Giulietti, L.A. Gizzi, **Thomson Backscattering X-rays from ultrarelativistic electron bunches and temporally shaped laser pulses** *Appl. Phys. B* **80**, 419- (2005)
- L. Labate, C.A. Cecchetti, M. Galimberti, A. Giulietti, D. Giulietti, L.A. Gizzi, **Detailed characterization of the early X-ray emission of a plasma produced by point-like laser irradiation of solid Al targets,** *Phys. Plasmas* **12**, 083101 (2005)
- L.A. Gizzi, C.A. Cecchetti, M. Galimberti, A. Giulietti, D. Giulietti, P. Köster, L. Labate, S. Laville, P. Tomassini, **Soft laser-plasma X-ray sources for differential absorption imaging of tracing elements in thin samples,** *Laser Part. Beams* **22**, 367 (2004). - L.A. Gizzi, C.A. Cecchetti, M. Galimberti, A. Giulietti, D. Giulietti, L. Labate, S. Laville, P. Tomassini, **Transient ionization in plasmas produced by point-like irradiation of solid Al targets,** *Phys. Plasmas* **10** 4601 (2003).
- L. Labate, M. Galimberti, A. Giulietti, D. Giulietti, L.A. Gizzi, P. Tomassini, G. Di Cocco, **A laser-plasma source for CCD calibration in the soft X-ray range,** *Nucl. Instr. and Meth. A* . **148** (2002).
- D. Giulietti, M. Galimberti, A. Giulietti, L.A. Gizzi and P. Tomassini, M. Borghesi, V. Malka and S. Fritzler, M. Pittman and K. Taphouç, **Production of ultra-collimated bunches of mu MeV electrons by 35-fs laser pulses propagating in exploding-foil plasmas,** *Letter on Phys. Plasmas* **9**, 3655 (2002).
- D. Giulietti, M. Galimberti, A. Giulietti, L. A. Gizzi, F. Balcou, A. Rousse, J. Ph. Rousseau, **High-energy electron beam production by femtosecond laser interactions with exploding plasmas,** *Phys. Rev. E* **64**, 015402 (R) (2001).
- L.A.Gizzi, A.Giulietti, O.Willi, D.Riley, **Soft-x-ray emission dynamics in picosecond laser-produced plasmas,** *Phys. Rev. E*, **62**, 2721 (2000).
- Leonida A. Gizzi, **Alla Scoperta di nuove Sorgenti di Radiazione X,** Rapporto Interno IFAM, 01-072000, 2000.
- A.Giulietti, A.Macchi, E.Schifano, V.Biancalana, C.Danson, D.Giulietti, L.A.Gizzi, O.Willi, **Stimulated Brillouin backscattering from underdense expanding plasmas in a regime of s filamentation,** *Phys. Rev. E* **59**, 1038 (1999).
- D.Teychenneé, A.Giulietti, D.Giulietti, L.A.Gizzi, **Magnetically Induced Optical Transparency of Overdense Plasmas Due to Ultrafast Ionisation,** *Phys. Rev. E* **58**, R1245 (1998). (. D.Giulietti and L.A.Gizzi, **X-ray emission from laser-produced plasmas,** *La Rivista del Nuovo Cimento* **21**, 1 (1998).
- D.Giulietti, L.A.Gizzi, A.Giulietti, A.Macchi, D.Teychenneé, P.Chessa, A.Rousse, G.Cheriaux, J.P.Chambaret, G.Darpenigny, **Observation of solid-density laminar plasma transparency to intense 30- femtosecond laser pulses,** *Phys. Rev. Lett.* **79**, 3194 (1997).
- L.A.Gizzi, A.Giulietti, O.Willi, **Time-resolved, multiframe X-ray imaging of laser-produced Plasmas,** *J. X-ray Sci. Technol.* **7**, 186 (1997)
- L.A.Gizzi, J.P.Chambaret, G.Cheriaux, P.Chessa, L.Gizzi, G.Darpenigny, A.Giulietti, D.Giulietti, A.Macchi, D.Teychenneé, **High Intensity Femtosecond Interactions with Thin Films** *Proceedings of the 13th International Conference on Laser Interaction and Related Plasma Phenomena*, edited by H.Hora and G.H.Miley, Plenum Press, New York, Vol.13 (1997)
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- L.A.Gizzi, D.Giulietti, A.Giulietti, P.Audebert, S.Bastiani, J.P.Geindre, A.Mysyrovicz, **Simultaneous measurements of hard X-rays and 2nd harmonic emission in fs laser-target interactions,** *Phys. Rev. Lett.* **76**, 2278 (1996). - T. Afshar-rad, L.A.Gizzi, M.Desselberger, O.Willi, **Effect of filamentation on Brillouin scattering in large underdense plasmas irradiated by incoherent laser light,** *Phys.Rev. Lett.* **75**, 4413 (1995).
- L.A.Gizzi, A.J.Mackinnon, D.Riley, S.M.Viana, O.Willi, **Measurements of thermal transport in plasmas produced by picosecond laser pulses,** *Laser Part. Beams*, **13**, 511 (1995). L.A.Gizzi, D.Giulietti, A.Giulietti, T.Afshar-Rad, V.Biancalana, P.Chessa, E.Schifano, S.M.Viana, O.Willi, **Characterisation of Laser Plasmas for Interaction Studies,** *Phys. Rev. E*, **4** 5628 (1994).
- D.Riley, L.A.Gizzi, A.Mackinnon, S.M.Viana, O.Willi, **Absorption of High Contrast 12 ps UV Laser Pulses by solid targets,** *Phys. Rev. E*, **48**, 4855 (1993).
- D.Riley, L.A.Gizzi, F.Y.Khattak, S.M.Viana, O.Willi, **Plasma Conditions Generated by Interaction of a High Brightness, Pre-pulse Free Raman Amplified KrF Laser Pulse with Solid Targets,** *Phys. Rev. Lett.* **69**, 3739 (1992).
- M.Desselberger, L.A.Gizzi, V.Barrow, J.Edwards, F.Y.Khattak, S.M. Viana, O.Willi, R.Bann, C.N.Danson, **Generation of High Aspect Ratio Line Focus Using a Random Phase PI Applied Optics,** **31**, 3759 (1992).
- L.A.Gizzi, D.Batani, V.Biancalana, A.Giulietti, D.Giulietti, **X-Ray emission from Thin Foil Laser produced Plasmas,** *Laser and Particle Beams*, **10**, 65 (1992).
- T.Afshar-Rad, L.A.Gizzi, M.Desselberger, F.Khattak, O.Willi, A.Giulietti, **Evidence for Whole-Beam Self-Focusing of Induced Spatially Incoherent Laser Light in Large Underdens Plasmas,** *Phys Rev.Lett.* **68**, 942 (1992).
- A.Giulietti, D.Giulietti, D.Batani, V.Biancalana, L.A.Gizzi, L.Nocera and E.Schifano, **Spectroscopic Evidence for Sum Frequency of Forward and Backscattered Light in Laser Plasmas,** *Phys. Rev. Lett.* **63**, 524 (1989).

Pisa, 22/08/2022

Curriculum di VITTORIA MATILDE PIA PETRILLO in data 02/07/2022 (Sintesi)

Informazioni Personali e Carriera

Laureata in Fisica a Milano con 110/110 e lode il 3/4/1978.
Assistente Supplente presso l'Università di Milano dal 1/10/1978 al Novembre 1981.
Ricercatore Confermato presso l'Università di Milano dal Novembre 1981.
Collaboratore Scientifico presso l'Istituto di Fisica del Plasma del CNR di Milano dall'81 al 92.
Collaboratore INFN (con incarico di collaborazione nel Gruppo V) dal 1992.
Abilitazione per Professore Associato in Fis07.
Abilitazione per Professore Associato in Fis03.
Professore Associato presso l'Università degli Studi di Milano dal 1/2/20

Attività didattica

A.A. 1978/79 Esercitazioni di Fisica Teorica (Prof. Caldirola). Dall'A.A. 1979/80 all'A.A. 1991/1992 Esercitazioni di Fisica Generale II (Prof. Fontanesi). Dall'A.A. 1992/93 all'A. A. 1996/1997 e 1999/2000 Esercitazioni di Istituzioni di Fisica Teorica (Prof. Bonifacio). A.A. 1997/98, 1998/99 e 2000/2001 Esercitazioni di Fisica Generale II per Matematica (Prof. Micheletti). A.A. 2001/2002 e 2002/2003 esercitazioni di Fisica Moderna . A.A. 2001/2002 esercitazioni di Fisica I e II per matematica (prof. Micheletti). A.A. 2002/2003 esercitazioni di Fisica IV per Matematica. A.A. 2003/2004 esercitazioni di Meccanica Quantistica per Fisica
Dall'A.A. 1996/97 al 2000/2001 titolare per affidamento del corso di Fisica Generale I per Informatica a Crema.
A.A. 2001/2002 titolare del corso di Fisica dei dispositivi elettronici per Informatica a Crema.
Dal 2003/2004 al 2009/2010 titolare del corso di Fisica IV per Matematica.
Dal 2009/2010 ad oggi titolare del corso di Ottica I per Fisica.
Dal 2013/2014 ad oggi co-titolare del corso di Fisica generale con Elementi di Fisica Tecnica per Scienze della Ristorazione.
Dal 2013/2014 al 2016/2017 titolare e dal 2017/2018 ad oggi co-titolare del corso di Preparazioni Esperienze Didattiche II per Matematica.
Dal 2017/2018 ad oggi co-titolare del corso di Preparazioni di Esperienze Didattiche I per Matematica.

Attività scientifica

1978/1992: Attività di ricerca in Fisica del Plasma, sul riscaldamento e la formazione di plasmi mediante l'iniezione di microonde, con collaborazioni scientifiche con il FOM Instituut di Nieuwegein (Paesi Bassi), con il Laboratorio Risoe di Roskilde (Danimarca) con il C.E.A. di Fontenay aux Roses, (Francia) e con il gruppo INTOR/NET/ITER dell'EURATOM. Attività di ricerca su argomenti di Fisica Quantistica, quali il tunnelling attraverso barriere di potenziale e lo studio di stati entangled in collaborazione con l'università di Kiev (Ucraina).

1992/2001 Attività di ricerca teorica applicata nel campo della Fisica del Laser a elettroni liberi e della Fisica dei Fasci.

Dal 2001 attività di ricerca teorica e sperimentale su FEL, Thomson e Compton scattering con collaborazioni scientifiche con i Laboratori Nazionali di Frascati-INFN, ENEA, CNR, ELI_NP (Romania, Repubblica Ceca) UCLA (USA), BNL Brookhaven (USA), LAL e LOA (Francia), Nebraska University (USA), Jefferson Lab (USA).

Ha partecipato ai progetti INFN:

SPARC (Sorgente Pulsata Amplificata di Radiazione Coerente) (collaborazione INFN-LNF, INFN e Univ. Milano, CNR-Frascati, ENEA-Frascati, Univ. Roma2)

SPARX

PLASMON X (Plasma Acceleration at Sparc and Monochromatic X-ray Production) (collaborazione Università e INFN-Pisa, INFN-LNF, INFN e Univ. Milano), SL_Thomson.

MAMBO, BEATS e BEATS2 (Mammographic Monochromatic Beam Outlook) con Università Sassari, INFN-LNF, INFN e Univ. Milano, con studi sulla dinamica di fasci coerenti di elettroni e sulle caratteristiche della radiazione da essi emessa. **E' stata responsabile locale di BEATS, BEATS2, SL_Thomson, SL_COMB2FEL . E' stata responsabile Nazionale di Ethiopia nel fino a maggio 2022.**

Ha partecipato ai Contratti Europei:

EUROFEL (6° Programma Quadro)

ELI (Extreme light Infrastructure, 7° Programma Quadro))

E' stata responsabile italiano del gruppo di lavoro 'FEL and attosecond X pulse' nel progetto ELI del 7 Programma Quadro.

E' stata responsabile del gruppo di lavoro "Sorgente Thomson" nell'ambito del progetto SL_Thomson, LNF-INFN.

Attualmente:

E' responsabile del gruppo di lavoro "Source Physics" nell'ambito del progetto ELI-np, finanziato dalla Comunità Europea, per la costruzione di una sorgente di raggi gamma a Magurele (Romania).

E' responsabile del gruppo di lavoro sul FEL del progetto EuSPARC ed EupraXia@SPARC (INFN- LNF)

E' responsabile dei gruppi di lavoro sul FEL e sulla sorgente Compton (BriXS) del progetto MariX.

Produzione scientifica

Sono autrice o co-autrice di almeno **250 pubblicazioni** su riviste ad alto impatto (1 Nature, 10 PRL), di almeno **150 tra contributi e relazioni su invito a congressi internazionali** (molte delle quali su invito e presentate da me), **8 contributi a CDR o TDR di progetti internazionali** e **1 libro** online.

Indici bibliografici:

da Scopus



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Scopus ID: 57199379452

Italian

Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input checked="" type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

h-index (Scopus): 29
Total citations (Scopus): 2517
Number of publications with index (last ten years): 107

WORK EXPERIENCE

From 2010 – to Today

Researcher

INFN-MI, Via Celoria, 16 - 20133 Milan, Italy
INFN-LNF, v.le E. Fermi, 54 - 00044 Frascati (RM), Italy

- Plasma simulations and beam dynamics
- Code development and optimization
- Data analysis

Research and development

From 2009 – to 2010

Technologist

INFN-MI, Via Celoria, 16 - 20133 Milan, Italy

- High brightness beam dynamics
- Tracking code development and optimization

Research and development

From 2006 – to 2008

Post Doc

INFN-MI, Via Celoria, 16 - 20133 Milan, Italy

- High brightness beam dynamics
- Tracking code development and optimization

Research and development

From 2004 – 2012

Assistant Professor

Università degli Studi di Milano
Università degli Studi dell'Insubria

Undergraduate teaching

ROLES

- | | |
|----------------------|--|
| From 2019 – today | Coordinator of the Working Package “Plasma Physics” for EuPRAXIA@SPARC_LAB TDR |
| From 2019 – to today | Member of the PhD Council
Accelerator Physics PhD School
University “La Sapienza”, Rome, Italy |
| From 2017 – 2018 | CDR Coordinator Assistant and Editorial Board member for MariX
A high intensity electron beam driving an FEL project |
| From 2017 – today | National Coordinator of the SL_EXIN experiment
Acceleration by laser driven plasma of an externally injected electron beam |
| From 2015 – 2018 | Co-Coordinator of the “LWFA and PWFA beam lines” Working Group for EuPRAXIA@SPARC_LAB CDR |
| From 2011 – 2014 | Coordinator of plasma acceleration simulations for SPARC_LAB |

EDUCATION AND TRAINING

- | | |
|------|--|
| 2001 | Master’s degree in Theoretical Physics
Topic: Non-commutative quantum field theory
University of Milan, Italy |
| 2004 | PhD in Physics
Topic: Quantum information and communications
University of Milan, Italy |
| 2006 | HPC
Introduction to parallel and distributed computation
CILEA-AICA, Milan, Italy |
| 2011 | Laser-Plasma Acceleration
Laser-plasma interaction, particle beam dynamics, principles and techniques in plasma acceleration
International School of Physics “Enrico Fermi”, Varenna, Italy |

PERSONAL SKILLS

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| Mother tongue(s) | Italian |
| Other language(s) | English, C2 |
| Job-related skills | Acceleration, plasma acceleration, transport of plasma beams; advanced electromagnetic radiation sources; code development and optimization; |
| Digital skills | Beam dynamics simulations; Fortran95 programming; MPI programming; Mathematica programming; Data analysis; |

OTHER

Commission of trust

Referee for Nature Communications, Nature Scientific Reports (Springer), Physical Review Letters, Physical Review: Accelerators and Beams (AIP), New Journal of Physics, Physics of Plasmas (IOP) and others.

Reviewer for the Czech Science Foundation (Czech Republic) and PALM (Laboratoire d'Excellence Physique: Atoms, Lumière, Matière, France)

International conferences and workshops

4 invited talks and 9 contributed talks.

DrAR Rossi