Simone Di Mitri, Curriculum Vitae

First, Last Name	Simone Di Mitri.
Personal data	Male. Born in Terni, Italy, 9 October 1976.
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Keywords	Particle accelerators. Photonics. Teaching.
Present Position	Accelerators Group Coordinator, Elettra Sincrotrone Trieste. Adjunct Professor, Univ. of Trieste, Dept. of Physics Editor, Nucl. Instrum. Meth. Phys. Res., Vol. A (NIM A)

Educational & Professional Record

2023/02 - to date	Accelerators Group Coordinator @ Elettra Sincrotrone Trieste
2006/02 - 2023/02	Senior staff scientist @ Accelerators Group, Elettra Sincrotrone Trieste
2002/04 - 2006/02	Junior scientist @ Accelerators Group, Elettra Sincrotrone Trieste
2008/09 - 2011/10	Ph.D. in Accelerator Physics, Dept. of Mathematics and Natural Sciences, University of Groningen, The Netherlands. Title: *Machine design and electron beam control of a single-pass linac for free electron laser: the FERMI@Elettra case study*.
1995/09 - 2000/10	Master Degree in Nuclear and Sub-Nuclear Physics, University of Pisa, Italy. Experimental Thesis in Accelerator Physics at the INFN-LNF, Rome, Italy. Title: *Single particle dynamics in the presence of sextupole nonlinearities in the electron-positron collider Daphne*.
1990/09 - 1995/07	Bachelor Degree, Senior High School "G. Galilei", Terni, Italy.

Competences

Design of linear, circular, recirculating, and energy-recovery accelerators. Commissioning and operation of synchrotron light sources and free-electron lasers.

2012 – to date	Elettra full-energy upgrade, Elettra 2.0
2016 – to date	TeraFERMI, THz user facility
2007 – to date	FERMI, free-electron laser
2002 – 2006	Elettra, synchrotron light source
1999 – 2000	Daphne, e+/e- collider

Professional Responsibilities

Without budget

2022 – to date	*FERMI:* task force for the electron beam optics and dynamics.
2017 – to date	*Elettra2.0*: schemes for short photon pulses.
2018 – 2021	*CompactLight*: concept and facility parameters list.
2009 – 2011	*FERMI:* commissioning, planning, liason to users.
2003 – 2009	*FERMI:* layout & beam physics.
2002 – 2006	*Elettra:* injector and transfer lines for the full energy upgrade.

With budget

2023 – to date	*Accelerators Group:* coordination
2020 – 2025	*LEAPS-INNOV:* coordination of the Elettra workpackages
2019 – 2020	*FERMI:* Main Beam Dump beamline upgrade
2015 – 2017	*ASML* ERL-EUV FEL for nano-litography, design and tests

Leading of Scientific Collaborations

2024 – 2026	Semi-analytical modelling of microbunching instability. *Elettra, EU-XFEL, Univ. of Trieste, Univ. of Rome La Sapienza, PSI, TU-Darmstad*.
2020 – 2023	Linear optics control of microbunching instability. *Elettra, Uppsala Univ., HUST*.
2018 – 2020	2D Fourier analysis of microbunching instability. *Elettra, STFC, ASML*.
2017 – 2018	Coherent THz emission in an arc compressor. *Elettra, Univ. Rome La Sapienza, Univ. Lille.*
2016 – 2018	Three-dimensional effects of coherent synchrotron radiation. *Elettra, STFC, Pulsar Physics, ASML.*
2015 – 2017	Design of a compact ERL EUV FEL for nano-litography. *Elettra, TJNAL, ASML.*
2003 – 2006	Start-to-End simulations of FERMI FEL. *Elettra, STFC, Univ. Liverpool, LBNL, NIU, ANL, UNM, Univ. Maryland.*

Third Mission

Since 2015	Lattice design and beam physics of ERL-UV FELs for nano-litography.
2020 - 2024	LEAPS-Innov Insertion Devices, in Horizon2020 (Coordination).
2016 - 2017	User beam time at the FERMI FEL for nano-litography (Coordination).

Professional Services

Review Committees

2026 – to date	Scientific Advisory Committee of EuPRAXIA@SPARC_LAB (Italy).
2025 – to date	Scientific Council of DESY (Germany).
2023 – to date	Machine Advisory Committee of MAX IV, Chair since 2026 (Sweden).
	Machine Advisory Committee of INFN (Italy).
2021 – to date	Scientific and Technical Advisory Committee of DALI (Germany).
	Review Panel of INFN - CSN5 (Italy).
2021 – 2023	Review Committee of SHINE FEL (China).
	Review Panel of the synchrotron ALBA-II lattice (Spain).
	SuperKEKB International Task Force (Japan).
2018 – 2021	Scientific Advisory Committee of the Soft X-ray FEL (Sweden).
	Scientific Advisory Committee of FREIA-X THz source (Sweden).
2011 - 2013	Beam Dynamics Review Committee of the PAL-XFEL (South Korea).

International Program Committees

2026 – to date	European Physical Society – Accelerator Group.
2010 – 2026	Scientific Program Committee of the International FEL Conference (co-chair in 2022; excl. 2024).
2016 – 2025	Scientific Advisory Board of IPAC, of NAPAC (2024), and Local Organizing Committee of IPAC (2023).
2021 – 2025	Scientific Program Committee of the FELs of Europe Workshop.

Spokeperson of European Projects

2020 – to date	*LEAPS*, co-spokeperson for Light Sources.
2017 – 2020	*LEAPS*, co-leader of FELs.
2021 – 2025	*LEAPS-Innov*, co-leader of Insertion Devices.
2013 – 2015	*FELs of Europe*, spokeperson for beam microbunching and compression for seeded FELs.
2005 – 2008	*EUROFEL*, spokeperson for particle collective instabilities in FELs.

Organization of Workshops

2023 – 2026	International workshop on Longitudinal Electron beam Dynamics for coherent light Sources (LEDS), Italy, Switzerland, Germany.
2025	International FELs of Europe workshop, Dresden, Germany.
2017	ICFA mini-Workshop on Nonlinear Dynamics and Collective Effects in Particle Beams (NOCE), Arcidosso, Italy.
2007 – 2014	I–VI International Workshop on Microbunching Instability.

Editorial Boards

2023 – to date	Nuclear Instrum. and Methods in Phys. Research - Vol.A, Editor
2020 – 2023	Physical Review Accelerators and Beams, Guest Editor

Teaching

National Schools

2016–2027	Adjunct Professor of Particle Accelerator Physics, Univ. of Trieste, Dept. of Physics, FIS/04, 6 CFU, 48 hours.
2012–2016	Adjunct Professor of Particle Accelerator Physics, Univ. of Trieste, Dept. of Engineering and Architecture, FIS/01, 6 CFU, 48 hours.
2016–2019	Faculty member for the Friuli Venezia Giulia regional project *Pages2-4*, High Schools, 6 hours.

International Schools

2019–2026	Lecturer at the ICTP Intern. School on Synchrotron Radiation, remote; 2 hours.
2022–2026	Lecturer at the biannual Advanced School on Experimental Techniques for Synchrotron Radiation, Lecco, Italy; 2 hours.
2026	Lecturer at the Collegio Fonda, Trieste, Italy; 6 hours.
2023	Lecturer at the SMART-X Innovative Training Network, Trieste, Italy; 2 hours.
	Lecturer on High Gain FELs, Angstrom Lab., Uppsala Univ. Sweden; 2 hours.
2016	Lecturer at CERN Accelerator School: Advanced Course on ERLs and FELs, Hamburg, Germany; 4 hours.
2015	Lecturer at U.S. Particle Accelerator School: Linac Design for FELs, Rutgers University, East Brunswick, NJ, U.S.A.; 40 hours.
2014	Faculty of Accelerator Physics at the International Nathiagali Summer College, Islamabad, Pakistan; 6 hours.
2013	Lecturer at U.S. Particle Accelerator School: Linac Design for FELs, Colorado State University, Fort Collins, CO, U.S.A.; 40 hours.
2005	Tutor at Cern Accelerator School (Advanced), Trieste, Italy; 4 hours.

Supervision

2017 - 2026

PhD: Univ. Trieste, Dept. Physics (2), Univ. Rome La Sapienza (1)
Master: Univ. Trieste, Dept. Physics (5), Dept, Engineering (1), Dept. Mathematics (1).
Graduate: Univ. Trieste, Dept. Physics (6).

External Referee of PhD Thesis

2017 - 2026

Univ. Paris-Saclay (1), Univ. Hamburg (1), Univ. Berlin (1), Univ. Rome La Sapienza (2), Univ. Milan (1), EPFL (1).

External Referee of Research Projects

2022 - 2026

PRISMAS (Sweden), Helmholtz Investigator Groups (Germany), ARIS (Slovenia).

Recent Fields of Research

Storage Rings

Production of (sub-)picosecond x-ray photon pulses.

Linac-FELs

Control of coherent synchrotron radiation and microbunching instability for improved FEL brilliance

ERL, ICS

Arc compressor and switchyard design for compact recirculating lattices.

Referee for peer-reviewed Journals

Nature Communications, Reviews of Modern Physics, Physical Review Letters, Optica, New Journal of Physics, Journal of Physics B, Journal of Synchrotron Radiation, Physical Review Accel. Beams, Nuclear Instruments and Methods in Physics Research, A and B, Optics Communications, JINST, Frontiers in Physics, Physica Scripta, Radiation Physics and Chemistry, IEEE Transactions on Nuclear Science and Techniques, Nuclear Science and Technology Open Research, Photonics MDPI, Applied Sciences MDPI, Radiation Detection Technology and Methods, Results in Physics.

List of Talks

09/2026 - Invited	Injectors and Beam Physics for Future Accelerators (SLAC, CA, USA): *Emittance preservation in high brightness linacs*
09/2026 - Contrib.	SIF2026 (Firenze, Italy): *Picosecond X-ray Pulses at the Elettra 2.0 with Crab Cavities*
04/2026 - Invited	LEDS2026 (Berlin, Germany): *Preservation of transverse coherence in Elettra 2.0 timing mode*
09/2025 - Invited	GIPE2025 (Trieste, Italy): *Eletttra Sincrotrone Trieste and Its Light Sources*
09/2025 - Invited	SIF2025 (Palermo, Italy): *The future of electron storage rings*
06/2025 - Invited	15th Europ. Biophys. Congress (Rome, Italy): *Picosecond X-ray pulses at Elettra 2.0 with crab cavities*
09/2024 - Invited	LEDS2024 (Bern, Switzerland): *Comparative study of microbunching instability at FERMI FEL*
08/2024 - Invited	SRI24 (Hamburg, Germany): *New opportunities of coherent imaging and timing mode at the Elettra 2.0 storage ring light source*
05/2024 - Invited	IPAC24 (Nashville, Tennessee, USA): *On the production of short X-ray pulses at diffraction-limited light sources, an update and recent developments*
03/2024 - Contrib.	HarmonLIP, LEAPS Workshop (Grenoble, France): *Superconducting RF transverse deflecting cavities for short x-ray pulses at Elettra 2.0*
02/2024 - Invited	9th Low-Emittance Rings Workshop (CERN, Switzerland): *Challenges of short pulses at 4th generation storage rings*
09/2023 - Invited	3rd African Conference on Fundamental and Applied Physics (George, South Africa): *Challenges of 4th generation accelerator-driven light sources*
09/2023 - Contrib.	SILS 2023 (Rome, Italy): *Transverse deflecting cavities for short x-ray pulses at a DLSR*
08/2023 - Contrib.	FLS, 67th ICFA Adv. Beam Dyn. Workshop on Future Light Sources (Lucerne, Switzerland): *Scaling of beam collective effects with bunch charge in the CompacLight FEL*
08/2023 - Contrib.	FLS, 67th ICFA Adv. Beam Dyn. Workshop on Future Light Sources (Lucerne, Switzerland): *FERMI FEL upgrade plans*

06/2023 - Invited	KEK Seminar (Japan, remote): *Lessons learned from the FERMI FEL zone*
03/2023 - Invited	Seconda Giornata Acceleratori INFN (Catania, Italy): *Accelerators development at Elettra Sincrotrone Trieste*
09/2022 - Invited	Forum on Advanced FEL Techniques (Hamburg, Germany): *FEL Developments*
08/2022 - Contrib.	40th Intern. FEL Conference (Trieste, Italy): *Bridging the gap of storage ring light sources and linac-driven FELs*
12/2021 - Invited	ACTIS Workshop: *Beam dynamics in arc compressors*
10/2021 - Invited	MAX IV Lab. (Lund, Sweden): *News from the Elettra zone: Elettra2.0 and FERMI2.0*
05/2020 - Invited	IPAC20 (Caen, France): *Mitigation of microbunching instability for improved FEL spectral brilliance*
11/2019 - Invited	Canadian-Italian Workshop on Future light Sources (Trieste, Italy): *Short pulse options at a diffraction limited storage ring*.
10/2019 - Invited	Uppsala Univ. (Sweden): *On electron beam brightness for compact X-ray sources*
09/2019 - Contrib.	SILS 2019 (Camerino, Italy): *Laser-slicing at a diffraction limited storage ring*
05/2019 - Invited	HDZR (Dresda, Germany): *Spectro-temporal pulse shaping at FERMI FEL*
12/2018 - Invited	Time-resolved Experiments at new synchrotron radiation facilities (Trieste, Italy): *Overview of time-resolved schemes for synchrotrons*
09/2018 - Invited	8th German-Russian Travelling Seminar (Trieste, Italy): *How do synchrotrons and free-electron lasers work?*
04/2018 - Invited	Canadian-Italian Workshop on Future light Sources (Saskatoon, Canada): *Elettra 2.0, the machine* and *FERMI, the machine*.
03/2018 - Contrib.	FLS18 (Shanghai, China): *Compact Arc Compressor for FEL-Driven Compton Light Source and ERL-Driven UV FEL*.
10/2017 - Invited	Univ. of Chicago (Chicago, IL): *Benchmarking coherent synchrotron radiation*.
09/2017 - Contrib.	SIF (Trento, I): *Design study of high gradient, low impedance accelerating structures for the FERMI free-electron laser linac upgrade*.
10/2016 - Contrib.	NAPAC (Chicago, IL, USA): *Operating Synchrotron Light Sources with a High Gain Free Electron Laser*.
09/2016 - Contrib.	IRMMTHz Conf. (Copenhagen, DK): *THz Coherent Transition Radiation at TeraFERMI: Commissioning Results*.
09/2016 - Contrib.	SIF (Padova, I): *The FERMI Seeded FEL Facility: Operational Experience and Future Perspectives*; *Operating Synchrotron Light Sources with a High Gain Free Electron Laser*.
08/2016 - Invited	Designing Future X-ray FELs (Daresbury, UK): *Modelling Linacs and their Components*.

02/2016 - Contrib. TWIICE-2 (Abingdon, UK): *Operating synchrotron light sources with a high gain free electron laser*.

08/2015 - Invited Intern. FEL Conf. (Daejeon, South Korea): *Estimate of free electron laser gain length in the presence of collective effects*.

07/2015 - Contrib. SILS (Trento, I): *Operating synchrotron light sources with a high gain free electron laser*.

06/2015 - Invited ERL Workshop (Stony Brook Univ., NY): *Transverse emittance-preservign arc compressor*.

01/2015 - Invited CLIC Workshop (CERN): *Exotic schemes of electron beam manipulation*.

09/2014 - Contrib. SIF (Pisa, I): *Theoretical and experimental advances on Coherent Synchrotron Radiation and Microbunching Instability at FERMI*.

02/2014 - Invited ASTEC (Daresbury, UK): *Opportunities for electron beam and FEL studies at CLARA*.

09/2013 - Invited ALBA-CELLS (Barcelona, ES): *Introduction to FERMI FEL: Physics Studies*. Introduction to `elegant`.

08/2013 - Invited Intern. FEL Conf. (New York, NY, USA): *Emittance control in the presence of collective effects in the FERMI@Elettra FEL linac driver.*

06/2013 - Invited High Gradient Workshop (Trieste, Italy): *Electron beam brightness in NC linac-driven x-ray FELs*.

05/2013 - Invited 5th Microbunching Instability Workshop (Pohang, South Korea): *Suppression of microbunching instability with a magnetic chicane at FERMI@Elettra*.

05/2013 - Invited 5th Microbunching Instability Workshop (Pohang, South Korea): *Cancellation of CSR kicks with optics balance*.

04/2012 - Invited LBNL (Berkeley, CA, USA): *Update on the FERMI@Elettra FEL Commissioning and Initial Operation*.

09/2011 - Invited IPAC (San Sebastian, ES): *Commissioning and Initial Operation of FERMI@Elettra FEL.*

04/2011 - Invited SPIE Conf., Advances in X-ray FELs (Prague, CZ): *FERMI@Elettra, a seeded free electron laser source for a broad scientific user program.*

01/2011 - Invited KVI (Groningen, NL): *The 100 nm to 4 nm Single-pass, Linac-based FERMI@Elettra FEL.*

03/2010 - Invited 2^{nd} IRUVX-PP Annual Meeting (Hamburg, D): *FERMI@Elettra is under commissioning*.

09/2009 - Invited ICAP (San Francisco, CA, USA): *Design and Simulation Challenges for the FERMI@Elettra project.*

09/2009 - Invited KIT (Karlsruhe, D): *The 100 nm to 4 nm FERMI@Elettra FEL project*. Introduction to `elegant` for the TBONE project.

10/2008 - Invited 2nd Microbunching Instability Workshop (Berkeley, CA, USA): *Overview and Recent Progress in Theory and Simulation*.

08/2006 - Invited Intern. FEL Conf. (Berlin, D): *How to obtain high quality electron bunches in the presence of normal conducting linac wakefields*.

Publications

Peer Reviewed Journals

99. E. Roussel et al., *Impact of electron-beam energy spread on the generation of high harmonics in seeded free-electron lasers*, Phys. Rev. Accel. and Beams, **29** 040701 (2026).

98. G. Campri, S. Di Mitri, M. Placidi et al., *Electron beam source and switchyard design for two-energy operation of x-ray Compton sources*, Phys. Rev. Accel. and Beams, **28** 051601 (2025).

97. S. Di Mitri et al., *Systematic and comprehensive comparison of two semi-analytical models of microbuching instability*, Phys. Rev. Accel. and Beams, **28** 044401 (2025).

96. S. Dastan et al., *Coherent synchrotron radiation instability in low-emittance electron storage rings*, Phys. Rev. Accel. and Beams, **27** 104401 (2024).

95. A. Brynes et al., & S. Di Mitri, *Mitigation of the microbunching instability through transverse Landau damping*, Phys. Rev. Accel. and Beams, **27** 074402 (2024).

94. E. Karantzoulis, S. Di Mitri, et al., *Design strategies and technology of Elettra 2.0 for a versatile offer to the user community*, Nucl. Instr. and Methods in Phys. Res. A **1060**, 169007 (2024). *

93. R. Mincigrucci et al., *Noncollinear, inelastic four-wave mixing in the extreme ultraviolet*, Optica **10**(10) 1383-1388 (2023).

92. F. Sottocorona et al., *Wavelength control in high-gain harmonic generation seeded free-electron lasers*, Phys. Rev. Accel. and Beams, **26** 090702 (2023).

91. G. Perosa et al., *Femtosecond Polarization Shaping of Free-Electron Laser Pulses*, Phys. Rev. Letters, **124** 045001 (2023).

90. E. Roussel et al., *A single-shot terahertz time-domain spectrometer using 1550 nm probe pulses and diversity electro-optic sampling*, Opt. Expr. **19**, 31 (2023) pp. 31072–31081.

89. S. Di Mitri, A. Bianco, S. Lizzit, *Non-equilibrium magnetic compression for picosecond-long x-ray pulses at a diffraction limited storage ring light source*, Nucl. Instr. and Methods in Phys. Res. A **1051**, 168197 (2023).

88. G. Perosa, S. Di Mitri, W. A. Barletta, F. Parmigiani, *Doppler Signature in Electrodynamic Retarded Potentials*, Physics Open **14**, 100136 (2023).

87. A. Gabrielli et al., *Diamond detectors' response to intense high-energy electron pulses*, Nucl. Instr. and Methods in Phys. Res. A **1047**, 167801 (2022).

86. E. Prat et al., *Energy spread blowup by intrabeam scattering and microbunching at the SwissFEL injector*, Phys. Rev. Accel. and Beams, **25** 104401 (2022).

85. M. Pop et al., *Single-shot transverse coherence in seeded and unseeded free-electron lasers: a comparison*, Phys. Rev. Accel. and Beams, **25** 040701 (2022).

84. G. Penco et al., *Nonlinear harmonics of a seeded free-electron laser as a coherent and ultrafast probe to investigate matter at the water window and beyond*, Phys. Rev. A, **105**, 053524 (2022).

83. F. Benatti et al., *Quantum state features of the FEL radiation from the occupation number statistics*, Opt. Expr., **29**, 24 (2021).

82. S. Di Mitri et al., *Bridging the gap of storage ring light souces and free-electron lasers*, Phys. Rev. Accel. and Beams, **24** 060702 (2021).

81. N. Mirian et al., & S. Di Mitri, *Characterization of soft x-ray echo-enabled harmonic generation free-electron laser pulses in the presence of incoherent electron beam energy modulations*, Phys. Rev. Accel. and Beams, **23** 080702 (2021).

80. N. Mirian et al., *Generation and measurement of intense few-femtosecond superradiant extreme-ultraviolet free-electron laser pulses*, Nature Photonics, https://doi.org/10.1038/s41566-021-00815-w (2021).

79. G. Perosa & S. Di Mitri, *Matrix model for collective phenomena in electron beam's longitudinal phase space*, Sci. Rep. **11** 7895 (2021).

78. S. Di Mitri et al., *Scaling of beam collective effects with bunch charge in the CompactLight free-electron laser*, Photonics (MDPI), **7**, 125 (2020).

77. G. Penco et al., *Enhanced seeded free electron laser performance with a "cold" electron beam*, Phys. Rev. Accel. and Beams, **23** 120704 (2020).

76. G. Perosa, et al. & S. Di Mitri, *Linear optics control of sideband instability for improved free-electron laser spectral brightness*, Phys. Rev. Accel. and Beams, **23** 110703 (2020). *

75. A. Brynes et al., & S. Di Mitri, *Microbunching instability characterisation via temporally modulated laser pulses*, Phys. Rev. Accel. and Beams, **23** 104401 (2020).

74. S. Di Mitri & G. Perosa, *Electron Beam Transport in Plasma–Accelerator-Driven Free–Electron Lasers in the Presence of Coherent Synchrotron Radiation and Microbunching Instability*, Physics (MDPI), **2** (2020) 521-530.

73. A. Petralia, P. Dattoli, S. Di Mitri, F. Nguyen, *Slice collective dynamics, projected emittance deterioration and Free Electron Laser performance detrimental effects*, J. Plasma Phys., **86(6)**, 845860601 (2020).

72. S. Di Mitri et al., *Experimental evidence of intrabeam scattering in a free-electron laser driver*, New J. Phys., **22**, 083053 (2020). *

71. N. Mirian et al., *Spectrotemporal control of soft x-ray laser pulses*, Phys. Rev. Accel. and Beams, **23** 060701 (2020).

70. P. Di Pietro et al., *Terahertz tuning of Dirac plasmons in Bi_2Se_3 topological insulator*, Phys. Rev. Letters, **124** 226403 (2020).

69. A. D. Brynes et al. & S. Di Mitri, *Characterisation of microbunching instability with 2D Fourier analysis*, Sci. Rep. **10** 5059 (2020). *

68. N. Adhlakha et al., *The TeraFERMI electro-optic sampling set-up for fluence-dependent spectroscopic measurements*, Condens. Matter, MDPI, **5**, 8 (2020).

67. D. You et al., *A detailed investigation of single-photon laser enabled Auger decay in Neon*, New J. Phys., **21**, 113036 (2019).

66. S. Di Mitri et al., *Simple and robust FEL doubler*, Phys. Rev. Accel. and Beams, **22**, 100701 (2019).

65. S. Di Mitri et al., *Laser-slicing at a low-emittance storage ring*, J. Synchr. Rad., **26** (2019).

64. A. Bacci et al., *Two-pass two-way acceleration in a superconducting continuous wave linac to drive low jitter x-ray free electron lasers*, Phys. Rev. Accel. Beams **22**, 111304 (2019).

63. A. Bacci et al., *GeV-class two-fold CW linac driven by an arc-compressor*, Instruments **3**, 54 (2019).

62. L. Serafini et al., *MariX, an advanced MHz-class repetition rate X-ray source for linear regime time-resolved spectroscopy and photon scattering*, Nucl. Instr. and Methods in Phys. Res. A **930** (2019), 167–172.

61. P. Rebernik et al., *Coherent soft x-ray pulses from an echo-enabled harmonic generation free-electron laser*, Nature Photonics, https://doi.org/10.1038/s41566-019-0427-1 (2019). *

60. S. Di Mitri et al., *Wakefield benchmarking at a single-pass high brightness electron linac*, Phys. Rev. Accel. and Beams, **22**, 014401 (2019).

59. S. Di Mitri, *One Way Only to Synchrotorn Light Sources Upgrade ?*, J. Synchr. Rad., **25** (2018).

58. S. Di Mitri et al., *Coherent THz Emission Enhanced by Coherent Synchrotron Radiation In-*

stability, Sci. Reports, **8**, 11661 (2018).

57. A. Brynes et al. & S. Di Mitri, *Beyond the limts of 1D coherent synchrotron radiation*, New J. Phys. **20** (2018) 073035. *

56. M. Ferrario et al., *EuPRAXIA@SPARC_LAB Design study towards a compact FEL facility at LNF*, Nucl. Instr. and Methods in Phys. Res. A **909** (2018), 134–138.

55. G. Campogiani et al., *Progress of the development of the ELI-NP GBS high level applications*, Nucl. Instr. and Methods in Phys. Res. A **909** (2018), 327–331.

54. R. K. Lam et al., *Two-photon absorption of soft X-ray free electron laser radiation by graphite near the carbon K-absorption edge*, Chem. Phys. Letters, **703C** (2018) 112–116.

53. R. K. Lam et al., *Soft X-ray Second Harmonic Generation as an Interfacial Probe*, accepted in Phys. Rev. Letters **120** 023901 (2018).

52. S. Di Mitri, S. Spampinati, *Microbunching instability study in a linac-driven free electron laser spreader beam line*, Phys. Rev. Accel. and Beams, **20**, 120701 (2018).

51. G. Penco et al., *Passive Linearization of the Magnetic Bunch Compression Using Self-Induced Fields*, Phys. Rev. Letters **119** 184802 (2017).

50. A. Perucchi et al., *TeraFERMI: a superradiant beamline for THz nonlinear studies at the FERMI free electron laser facility*, Synch. Rad. News **4**, 30 (2017).

49. J. A. G. Akkermans, S. Di Mitri, D. Douglas, I. D. Setija, *Compact compressive arc and beam switchyard for energy recovery linac-driven UV FEL*, Phys. Rev. Accel. Beams **20** 080705 (2017).

48. N. Shafqat, S. Di Mitri, S. Nicastro and C. Serpico, *Design Study of High Gradient, Low Impedance Accelerating Structures for the FERMI Free Electron Laser Linac Upgrade*, Nucl. Instr. and Methods in Phys. Res. A **867** (2017), 78–87

47. E. Roussel et al., *Polarization characterization of soft x ray radiation at FERMI FEL-2*, Photonics (MDPI) **4** 29 (2017).

46. M. Placidi, S. Di Mitri, C. Pellegrini and G. Penn, *Compact FEL-Driven Inverse Compton Scattering Gamma-Ray Source*, Nucl. Instr. and Methods in Phys. Res. A **855** (2017) 55–60.

45. C.-Y. Tsai, S. Di Mitri, D. Douglas, R. Li, and C. Tennant, *Conditions for coherent-synchrotron-radiation-induced microbunching suppression in multibend beam transport or recirculation arcs*, Phys. Rev. Accel. Beams **20** 024401 (2017).

44. T. Takanashi et al., *Time-resolved observation of interatomic Coulombic decay induced by two-photon double excitation of* Ne_2, Phys. Rev. Letters **118** 033202 (2017).

43. D. Iablonskyi et al., *Slow Interatomic Coulombic Decay of Multiply Excited Ne Clusters*, Phys. Rev. Letters **117** 276806 (2016).

42. D. Gauthier et al., *Chirped pulse amplification in an extreme-ultraviolet free-electron laser*, Nat. Commun. **7**, 13688 doi: 10.1038/ncomms13688 (2016). (2016).

41. F. Bencivenga et al., *Four-wave-mixing experiments with seeded free electron lasers*, Faraday Discussions, DOI: 10.1039/C6FD00089D (2016).

40. K.C. Prince et al., *Coherent control with a short-wavelength free-electron laser*, Nature Photonics, **13** (2016) 1–5.

39. E. Roussel et al., *Multicolor High Gain Free Electron Laser Driven by Seeded Microbunching Instability*, Phys. Rev. Letters **115** 214801 (2016).

38. S. Di Mitri, *Feasibility study of a periodic arc compressor in the presence of coherent synchrotron radiation*, Nucl. Instr. and Methods in Phys. Res. A **806** (2016) 184–192.

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