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Decreto Rettore Università di Roma "La Sapienza" n. 1253/2020 del 11.05.2020

ENRICA CHIADRONI
Curriculum Vitae

Place Velletri (RM)
12/06/2020

Part I – General Information

Full Name	**Enrica Chiadroni**
Citizenship	Italian
Spoken Languages	Italian (mother tongue), English, German (basic knowledge)

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
Under-graduate training	1999	Jyväskylä University, Finland	**Summer school on Physics** (2 weeks)
Under-graduate training	2000	DESY – Hamburg	**DESY Summer Student Program** (2 months)
Under-graduate training	2002	UCLA – Dept. Of Physics and Astronomy, Los Angeles	**Stage** on the characterization of spontaneous undulator radiation and FELs (2 1/2 months)
University graduation	2002	Sapienza University of Rome	**Physics** degree with a thesis on "Study and development of a single pass Free Electron Laser in the X ray range" – **106/110** Supervisor: Prof. Mario Mattioli (Sapienza, University of Rome) External Supervisor: Prof. Claudio Pellegrini (UCLA)
Post-graduate studies	2003	CERN Accelerator School, Brunnen (Switzerland)	Course on **Synchrotron Radiation and Free Electron Lasers** (2 weeks)
PhD	2006	Tor Vergata, University of Rome	**Physics**, XVIII cycle. Thesis on **"Bunch Length Characterization at the TTF VUV-FEL"** Supervisor: Prof. Sergio Tazzari (Tor Vergata, University of Rome) External Supervisor: Dr. Michele Castellano (INFN-LNF)

Licensure	2019	MIUR Ministry of Education, University and Research	National Academic Qualification as Associate Professor 2018 in Area 02-A1 **Experimental Physics of Fundamental Interactions**

Part III – Appointments

IIIA – Research and Academic Appointments

Start	End	Institution	Position
11/2019	10/2020		**Maternity leave**
07/2017	Today	INFN – Frascati National Laboratories	**Senior Researcher** (Primo Ricercatore II livello professionale)
01/2011	06/2017	INFN – Frascati National Laboratories	**Permanent Researcher** (Ricercatore III livello professionale a tempo indeterminato)
06/2008	01/2011	INFN – Frascati National Laboratories	**Time-dependent Researcher** (Art. 23, Ricercatore di III livello professionale)
13/06/2006	02/06/2008	INFN – Frascati National Laboratories	**Post-Doc Position** (Assegno di Ricerca) to work on R&D on a non-intercepting device to measure transverse emittance based on Optical Diffraction Radiation (experiment at FLASH, DESY – Hamburg)

Coordination of national and international researcher teams

Start	End	Institution	Position
11/2015	12/2018	INFN – Frascati National Laboratories	**Leader of Work Package on "Electron Beam Design and Optimization"** (WP5) of the project "Compact European Plasma Accelerator with superior beam quality" (EUPRAXIA); **Horizon 2020 grant**

			agreement No 653782
01/2019	Today	INFN – Frascati National Laboratories	**Coordination** (Responsabile nazionale) **of SL_COMB2FEL** (CSN5, INFN) (plasma-based acceleration activities)
01/2015	12/2018	INFN – Frascati National Laboratories	**Coordination** (Responsabilie nazionale) **of SL_COMB** (CSN5, INFN) (plasma-based acceleration experiments)
03/2013	03/2016	INFN – Frascati National Laboratories	**Coordination of plasma-based acceleration activities** as Principal Investigator (FIRB2012, MIUR)
01/2015	06/2018	INFN – Frascati National Laboratories	**Coordination of the machine operation** of the SPARC photo injector at the LNF-INFN
01/2009	Today	INFN – Frascati National Laboratories	**Coordination of the THz experimental activity** at SPARC_LAB at the LNF-INFN
01/2016	12/2017	INFN – Frascati National Laboratories	**Spokesperson for INFN in** the cooperation agreement between ASRT (Egypt) and INFN on "THz Radiation for medical and other applications in Egypt, Italy and beyond"
01/2013	12/2015	INFN – Frascati National Laboratories	**Coordination of the local unit** of the ODRI2D experiment (CSN5, INFN) (non-intercepting emittance measurement)
01/2013	12/2015	INFN – Frascati National Laboratories	**Coordination of the local unit** of the SL_Femtotera experiment (CSN5, INFN) (THz source for user applications)

Research activity in qualified international institutions

Start	End	Institution	Position
2005	Today	DESY - Hamburg	**Research appointment** on particle accelerators activities (Optical Diffraction Radiation Interference (ODRI) and ODRI2D experiments) – periodic beam time
2003	2005	DESY - Hamburg	**PhD student** (periodic visit)

Integration in the Accelerator Physics international community

Start	End	Institution	Position
04/2019		INFN – Frascati National Laboratories	**Member of the Programme Committee** of Physics and Applications of High Brightness Beams Conference
01/2018	Today	INFN – Frascati National Laboratories	**Member of the Executive Board** of the Società Italiana Luce di Sincrotrone (SILS)
06/2017	Today	INFN – Frascati National Laboratories	**Member of the Scientific Program Committee and International Organizing Committee (IOC)** of LINAC conference
02/2017	Today	INFN – Frascati National Laboratories	**Member of the Scientific Advisory Board of the** International Particle Accelerator Conference (IPAC*)
10/2018		INFN – Frascati National Laboratories	**Member of the International Advisory Board and the Local Organizing Committee** of the 5th International Conference on Frontier in Diagnostic Technologies (ICFDT5)
2018		IOP and SISSA	**Guest Editor of Journal of Instrumentation (JINST)** for the 5th International Conference Frontiers in Diagnostic Technologies (**ICFDT5**)
11/2015	12/2018	INFN – Frascati National Laboratories	**Member of the Steering Committee and Collaboration Board of EuPRAXIA**, Horizon 2020 grant agreement No 653782
09/ 2016		Helmholtz Center (Germany)	**Reviewer of** Helmholtz Young Investigators Group – Review of the proposal VH-NG-1206
06/2016		**CERN Accelerator School** - Free Electron Lasers and Energy Recovery Linacs	**Lecturer** on "Electron Sources and Injector Systems" (1h, ~60 students)
11/2015		**CERN Accelerator School** - Intensity Limitations in Particle Beams	**Lecturer** on "High Brightness Photo-injectors" (1h, ~60 students)
09/2015		INFN – Frascati National Laboratories	**Member of Local Organizing Committee of the** CERN School on Excellence in Detectors and Instrumentation Technologies 2015 (EDIT2015)
09/2015		INFN – Frascati National Laboratories	**Member of the Programme Committee** of the 2nd European Advanced Accelerator Concepts (EAAC 2015)
08/ 2015		STFC (UK)	**Member of the Project Peer Review Panel (PPRP)** for the proposal "Terahertz driven dielectric linacs on behalf of STFC"
04/2015		INFN – Frascati National	**Member of the Programme Committee** of

		Laboratories	SPIE Optics + Optoelectronics Conference, section on Advances in X-ray Free-Electron Laser Instrumentation
2015		2nd European Advanced Accelerator Concepts	**Co-chairperson** of the Working Group on "High-gradient plasma structures and Advanced beam diagnostics"
2014		2nd Joint AIC-SILS	**Co-chairperson** of the Micro-Simposio on "Advanced Radiation Sources"
06/2013		INFN – Frascati National Laboratories	**Member of the Local Organizing Committee** of the 1st European Advanced Accelerator Concepts (EAAC 2013)
2012	Today	INFN – Frascati National Laboratories	**Member of** the **Local Organizing Committee** of the International Channeling Conference - Charged & Neutral Particles Channeling Phenomena
2013	Today	American Institute of Physics	**Referee** of Journal of Applied Physics, Physics of Plasmas, Review of Scientific Instruments, Applied Physics Letters
2013	Today	Taylor and Francis Group	**Referee** of Journal of Modern Optics
2013	Today	Optical Society of America	**Referee of** Optics Letters, JOSA B
2013		Elsevier	**Guest Editor of Physics Procedia** for the 3rd International Conference Frontiers in Diagnostic Technologies (**ICFDT3**)
2009		ICFA Workshop "The Physics and Applications of High Brightness Electron Beams"	**Chairperson** of the working group on "Manipulation and diagnosis of high brightness beams"
2008	Today	American Physical Society	**Referee** of Physical Review - Accelerators and Beams (former PRST-AB); Physical Review Letters
2006	Today	Elsevier	**Referee** of Nuclear Instruments and Methods in Physics Research Section A and B, Physics Letters A

*The IPAC conference is the most important annual international conference for the particle accelerator physics community with around 1000 delegates every year.

IIIB – Selection and Reviewer Appointments

Start	End	Institution	Position
11/2013	11/2015	INFN – Frascati National Laboratories	**Member of the selection board** for the Research Activity Fellowship (Assegni di Ricerca) *disposizione del Presidente n. 15930 del 3 ottobre 2013*
11/2017		INFN – Frascati	**Member of the selection board** for the Post-

		National Laboratories	Doctoral Fellowships in Experimental Physics (call n. 19291)
04/2016	04/2016	Sincrotrone Trieste	**Member of the committee** of the selection board for a Scientist for the TeraFERMI Beamline Ref. E/16/05 (appointed on March 24, 2016 n.72)
27/02/2014	Today	MIUR	**MIUR Project Reviewer**
09/2012	10/2012	Sapienza – University of Rome	**Member of the committee** of the selection board for the Accelerator Physics PhD (XXVIII cycle)

IIIC – Other Appointments

Start	End	Institution	Position
08/1999	08/1999	Jyväskylä (Finland)	**Summer Student** (2 weeks)
08/2000	09/2000	DESY – Hamburg (D)	**Summer Student** (2 months)
10/2003	03/2005	DESY – Hamburg (D)	**Doctoral Student** (periodic visit)
03/2009	03/2009	Babcock Noell GmbH (BNG) and Forschungszentrum Karlsruhe (FZK)	**Post-doctoral student:** Lecture on Insertion Devices (2 days)

Part IV – Teaching and outreach experience

Year	Institution	Lecture/Course
06/2018	**Accelerator Physics PhD** – Sapienza, University of Rome	**Laboratory of Accelerator Physics**: Transverse diagnostics (4h, 4 students)
06/2017	**Accelerator Physics PhD** – Sapienza, University of Rome	**Laboratory of Accelerator Physics**: Transverse diagnostics (8h, 6 students)
From 04/2017	**Accelerator Physics PhD** – Sapienza, University of Rome	**Coordinator** of the transverse and longitudinal diagnostics activity in the **Accelerator Laboratory for the PhD course in Accelerator Physics**
From 2013	INFN – Frascati National Laboratories	**Assistant supervisor** of theses in Physics and **assistant supervisor of PhD thesis** in Accelerator Physics and Material Science
10/2013	INFN – Frascati National Laboratories	**Supervisor** of a student in the framework of Progetto MaTeRia Master SPRINT PON a3_00370/F
2013-2015	Tor Vergata – University of Rome	**Member of the examination committee** of General Course on Physics I and II
2011-2015	Tor Vergata – University of Rome	**Member of the examination committee** of Accelerator Physics
2007-2009	INFN – Frascati National Laboratories	**Tutor of high school students and teachers**

Part V - Society memberships, Awards and Honors

Year	Title
01/2018 - Today	**Member** of SILS and Member of the Executive Committee
2013	**Member** of Italian Physics Society (SIF)
11/2013	**Notice for II best oral communication** at Annual Meeting of the Italian Physics Society (SIF): "Linac- based THz radiation source"
06/2010	**Winner of the position** for "Scientist for the development of new superconducting insertion devices (ID)" at the Karlsruhe Institut of Technology – ANKA
07/2003	Awarded of **Doctoral Student grant** by CERN, Geneva – CH, for CAS course on Synchrotron Radiation and Free Electron Lasers
02-04/2002	**Financial support for undergraduate students** by INFN (Roma1) to join Prof. Claudio Pellegrini's group at UCLA and get experience on FELs

Invited Talks

Date	Conference	Title
12/2019	Spectroscopy and Imaging with THz Radiation using Ultimate Radiation - **THz Radiation Workshop**, Rome (Italy)	Status of the THz activities at SPARC_LAB
05/2018	9th International Particle Accelerator Conference (**IPAC2018**), Vancouver, BC (Canada)	Status of Plasma-based Experiments at the SPARC_LAB Test Facility (Parallel session)
09/2017	3rd European Advanced Accelerator Concepts **(EAAC2017)** Workshop, La Biodola, Isola d'Elba (Italy)	Overview of Plasma Lens Experiments and Recent Results (Plenary review talk)
04/2017	**XVI IFAE** Incontri di Fisica delle Alte Energie, Trieste (Italy)	Plasma-based Experiments at the SPARC_LAB Test Facility
03/2016	**ICFA Workshop** "Physics and Applications of High Brightness Beams", Havana (Cuba)	Beam manipulation for resonant plasma wakefield acceleration (PWFA)
02/2016	**Colloquium of the Maier-Leibnitz-Laboratory**, TMU and LMU - Munich (Germany)	Plasma-based acceleration experiments at the SPARC_LAB test facility
11/2015	**Workshop Beam Dynamics meets Diagnostics (EuCARD2)**, Firenze (Italy)	Longitudinal Electron Beam Diagnostics
03/2015	**5th Topical Workshop on Beam Diagnostics,** Son Caliu Hotel, Palma (Spain)	RF techniques for ultra-short bunches
04/2014	**3rd Topical Workshop on Novel Acceleration Techniques**, Dresda (Germany)	Plasma-based acceleration experiments at SPARC_LAB
03/2013	**ICFA Workshop** series "Physics and Applications of High Brightness Beams", San Juan (Puerto Rico)	Two Color FEL with COMB beams at SPARC
09/2011	**IX International Symposium RREPS 11**	The THz Radiation Source at SPARC

	Radiation from Relativistic Electrons in Periodic Structures, Egham (UK)	
05/2010	1st International Particle Accelerator Conference (**IPAC2010**), Kyoto, Japan	Characterization of the THz source at SPARC (Parallel Session)
05/2008	**Mini-Workshop on "Characterization of High Brightness Beams",** DESY Zeuthen, berlin (Germany)	Application of SPARC data analysis tool to benchmark PITZ data
08/2007	29th International Free Electron Laser Conference (**FEL2007**), Novosibirsk (Russia)	Direct Measurement of Phase Space Evolution in the SPARC High Brightness Photoinjector
11/2006	**2nd Annual EUROFEL Workshop**, Daresbury (UK)	Recent Results with the SPARC Emittance Meter

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

VI A – Grants as **Principal Investigator**

Year	Title	Program	Grant value
2019-2023	SL_COMB2FEL: Particle-driven plasma-based accelerator to drive a Free Electron Laser at SPARC_LAB	**National Scientific Committee V** of INFN (National Coordinator)	110 k€**
2015-2018	SL_COMB: Particle-driven plasma-based acceleration experiment at SPARC_LAB	**National Scientific Committee V** of INFN (National Coordinator)	430 k€
06/2016-12/2017	Research on a THz source for medical application: Italy – Egypt agreement	**INFN and Egyptian Academy of Scientific Research and Technology (ASRT)**	26 k€
2013-2016	Generation of High brightness electron beams from plasma-based accelerators	Ministero dell'Istruzione, dell'Università e della Ricerca (**MIUR**) Futuro in Ricerca 2012 (**FIRB2012**) - RBFR12NK5K	700 k€
2013-2015	ODRI2D: Optical Diffraction Radiation Interference for non intercepting horizontal and vertical emittance measurement at FLASH2 (DESY)	**National Scientific Committee V** of INFN (Research Unit Coordinator)	39.5 k€
2013-2015	SL_Femtotera:	**National Scientific**	86.50 k€

	Development of a linac-based THz source for THz applications at SPARC_LAB	**Committee V** of INFN (Research Unit Coordinator)	
2010-2012	ODRI: Optical Diffraction Radiation Interference for non intercepting emittance measurement at FLASH (DESY)	**National Scientific Committee V** of INFN (Research Unit Coordinator)	36.5 k€

****Fundings received in the first two years project, i.e. 2019-2020; expected 50 k€/year**

VI B – Grants as **Investigator**

Year	Title	Program
2018-2020	**TERA**: High field Terahertz Hera	**National Scientific Committee V** of INFN
2017-2020	**ARIES** – Accelerator Research and Innovation for European Science and Society	**Horizon 2020** (Integrating Activity Project)
2014-2017	**EuCARD-2**: Integrating Activity Project for coordinated Research and Development on Particle Accelerators	**Horizon 2020**
11/2015	**EUPRAXIA** – Compact European Plasma Accelerator with superior beam quality	**Horizon 2020**
2016-2017	EUROFEL	MIUR-FOE-INFN
2010-2012	TERASPARC: Extraction and use of THz radiation at SPARC	**National Scientific Committee V** of INFN
Since 2006	Projects related to particle accelerator (e.g. ILC, TTF, CLIC, PLASMONX, SL_COMB)	**New Techniques of Acceleration** NTA-INFN
2006	SPARX (phase II)	**FIRB** - MIUR
2004	SPARX (phase I)	**FIRB** - MIUR
2005-2012	SPARC	**FISR** - MIUR

Part VII – Research Activities

Keywords	Brief Description
SPARC, machine measurements	E. Chiadroni has been collaborating with the Accelerator Division of the Laboratori Nazionali di Frascati (INFN), joining the group study on innovative linear accelerators since March 2001, when she started the Master Thesis in Physics with a study on Single-Pass VUV-X-rays Free-Electron Lasers, contributing to the writing of the SPARC

	Technical Design Report (TDR) and later of the SPARX TDR [P44, P47] and SPARX Scientific Case, as a step farther, toward the x-rays, than its test facility SPARC [P45, P46]. Since then E. Chiadroni has been having an active role in the commissioning, operation and management of the SPARC_LAB test facility. SPARC is a high brightness linear accelerator initially conceived to drive proof-of-principle experiments in the generation of radiation with Free Electron Laser (FEL) [P29]. Nowadays the SPARC accelerator has been upgraded to SPARC_LAB [P14] with the installation of multi TW class lasers, allowing world-class, ground breaking experiments in accelerator and plasma physics as well as interdisciplinary research [J31, P7]. Following the time line of the SPARC_LAB upgrades, the activity can be roughly divided in research on physics of high brightness electron beams, on FEL innovative schemes, on the generation of THz radiation, on novel plasma-based particle acceleration techniques and on Compton effect based radiation sources.
Physics of high brightness beam	Concerning the physics of high brightness electron beam, SPARC measured for the first time the emittance oscillation of beams generated by RF photocathodes [SP11, P40], assessing the working point used world-wide in all the FELs based on RF guns. Such result has been possible due to a carefully conducted experiments [P37, P39] and data analysis [P38]. In order to longitudinally compress the electron beam (to increase the bunch current), SPARC introduced and demonstrated the low energy compression (namely "velocity bunching") properly tuning low energy focusing solenoids [P28, P32], for the first time used there. Such velocity-bunched beam exhibits non-negligible energy spread that must be considered in beam measurements [P22] or exploited to produce radiation [P31] with non-conventional FEL configurations. SPARC high brightness beams are also used to propose and demonstrate novel concepts in beam diagnostics [J77, J79] or medical applications [SP06, P4] in electron based radiotherapy.
Free Electron Laser	SPARC contributed to develop and test innovative ideas on Free Electron Laser schemes, which have been afterword applied in bigger FEL facilities (see for instance the first seeded FEL user facility FERMI@Elettra); such results allow also for extensive benchmark of code against experiments [P29] and innovative diagnostics [P1]. For instance, SPARC introduced the undulator tapering to compensate energy spread [P21, P31] or demonstrated the generation of a super radiant pulse in the long radiator of a single stage cascaded FEL, by seeding the modulator with an external laser.

	Seeded FELs can operate either in the amplifier "direct seeding" scheme [P2, SP09, P26, P35], or in the high gain harmonic generation configuration [P25], where the seed in a first undulator (modulator) is used to induce an energy-density modulation in the electron beam longitudinal phase space. This bunched beam then emits a higher order harmonics in a following undulator (radiator). This scheme can be repeated in a multiple stage cascade of modulators and radiators, extending the operation wavelength toward a range where seed sources are not available [P19]. The versatility of the SPARC linac allowed also to send a train of bunches in the FEL undulator, resulting in a two colour FEL radiation [P5], time modulated FEL radiation [SP07, P12] and seeded two colours radiation [J80]. Also, such scheme was pioneered at SPARC and it is now used in several other laboratories for pump-probe FEL experiments.
THz radiation (SL_Femtotera experiment, CalipsoPlus program, TERA project, INFN-ASRT project, SABINA project)	Taking profit from the short (~100 fs) electron bunches as produced by the velocity bunching compression scheme, a source of both broad band and high energy (>40 uJ) THz radiation has been developed and successfully commissioned [P17]. E. Chiadroni conceived, studied and developed the software and hardware needed to generate and characterize such a high intensity THz source, leading and managing the THz activities at SPARC_LAB, which conducted to the first user experiment performed at SPARC_LAB in the framework of SL_Femtotera project. Indeed, the SPARC_LAB THz radiation is strongly competitive with respect to conventional THz sources and extremely suitable for investigating non-linear THz spectroscopy. In particular, it has the remarkable characteristic of being able to produce MV/cm electric fields, which can excite fundamental quantum statuses of a given system, allowing for non-linear optic experiments. In particular, the non-linear electrodynamics properties on topological insulators have been studied: a strong reduction of the absorption of Bi2Se3 has been observed for the first time increasing the THz electric field from few kV/cm up to 1.6 MV/cm onto the sample [SP04, J71]. THz radiation has been also generated and characterised taking advantage from the comb-like electron beam manipulation to provide a high intensity, quasi-narrow band (<30%) and tunable THz radiation source [P18, J74]. The generation of THz radiation at SPARC relies on the usage of sub-ps high brightness electron bunches when a broadband radiation is needed [P17], while longitudinally modulated electron beams allow for tunable narrow-band radiation [J82]. The generation is quite efficient since the velocity bunching imposes a longitudinal phase space distortion, leading to asymmetric current profiles with sharp rising charge distribution at the bunch head; therefore, high frequency (THz) radiation can be emitted if the bunch goes across a radiator (coherent transition radiation) [J74].

	The successful activity on the THz radiation at SPARC_LAB has produced several scientific and technological outreaches, both national and international: - The SPARC_LAB THz source has been integrated in the European Calipso Plus program, opening to the application from external users. - A 18 months project, named as SABINA, has been co-funded by the regional government (Regione Lazio), within POR-FESR 2014-2020 funds with an amount of 4.5 M€, with the aim to implement 2 beam lines for users based on advanced THz radiation and high power laser, to guarantee continuous and reliable users access, to consolidate the SPARC_LAB technological plants and refurbish aged components in view of a user-oriented test facility. - The THz ERA project (TERA) has been funded by INFN with the aim to build a synergic interdisciplinary collaboration among different INFN groups with the final goal to push forward a strong R&D activity on the technological development in the spectral region (0.3-20) THz, spanning from non-linear optics and laser physics, material science, detectors, and acceleration physics. E. Chiadroni coordinates the WP2, and she is responsible of task 1, concerning advance acceleration concepts, based on THz-driven accelerating structures, focusing on the feasibility of their implementation in the SPARC_LAB facility. - A collaboration activity in the Framework Agreement between INFN and the Egyptian Academy of Scientific Research and Technology (ASRT) has been funded to study a THz source for medical applications; E. Chiadroni has been the spokesperson for the INFN [J34, J40].
Plasma-based acceleration (SL_COMB and SL_COMB2FEL experiments), FIRB project, EuPRAXIA project, EuPRAXIA@SPARC_LAB project	Plasma-based accelerators represent the new frontier for the acceleration of high quality, i.e. high brightness, electron beams because of their capability to sustain extremely large accelerating gradients. In conventional Radio-Frequency (RF) linear accelerators, accelerating gradients are currently limited to ~100 MV/m, mainly due to breakdown occurring on the metallic walls of the devices. Ionized plasmas, however, can sustain electron plasma waves with electric fields three orders of magnitude higher than those achievable with actual RF technologies. Moreover, the accelerating field strength is tunable by adjusting the plasma density. As a consequence, next-generation plasma-based accelerators can push electron bunches to gigaelectronvolt energies within centimetre distances, paving the way to the realization of laboratory-scale applications ranging from ultra-bright light sources to high-energy colliders [J1, J12, J31].

	So far several experiments have demonstrated a significant acceleration, but the overall beam quality, in terms of energy spread [P20], is still far from state of the art conventional accelerators, preventing their use as an alternative to conventional RF accelerators, which typically provide stable and high quality electron beams. The use of transport lines based on conventional technology, such quadrupole or solenoid based transport lines, still presents issues that affect their implementation in user-oriented facilities [P23]. Therefore, one approach towards plasma-accelerated high-brightness electron beams is to limit the growth of the energy spread by the optimization of injection schemes; in particular, electrons are injected directly into a pre-formed plasma channel. A first scheme consists in injecting a witness electron bunch in a plasma where the plasma wave is excited by a high-power laser pulse, i.e. external injection in a Laser Wake Field Accelerator (LWFA) [J16, J65, J66]. The second scheme relies on the induction of coherent plasma oscillations with multiple electron bunches, that is a resonant Plasma Wake Field Accelerator (PWFA) [SP03, J7, J58]. Such idea relies on using a comb-like beam, i.e. a train of equidistant bunches [J64], to increase the accelerating gradient. A scheme to produce comb-like beams was conceived at Laboratori Nazionali di Frascati and successfully tested at SPARC for the first time [P30]. The additional benefit of resonant PWFA relies on the use of lower charge bunches in the train with respect to traditional PWFA, with the advantage of a better control of acceleration and transport [J45, J67]. In this regard, at the SPARC_LAB test facility E. Chiadroni has contributed to the recent demonstration, for the first time, of an innovative way to achieve an ultra-low energy spread of the accelerated witness bunch of about 0.1% [*submitted to Nature Physics: NPHYS-2020-03-00996*]. This value is an order of magnitude smaller than what has been obtained so far. This result can lead to a major breakthrough toward the optimization of the acceleration process and its implementation in forthcoming compact machines for user-oriented applications [J18, J31]. The proof of principle experiments of resonant wake field acceleration triggered improvements in the plasma generation schemes [J20, J62], in the SPARC synchronisation [J70], in standard bunch measurement [J5, J26, J35, J44] as well as in non-intercepting beam diagnostics [P9]. The characterization of the plasma channel, in terms of plasma density profile and temperature, is mandatory for the stabilization and reproducibility of the acceleration. In this

	regards, several methods, both spectroscopic [J57, J63] and opto-acoustic [J69], have been studied and developed. Beam injection and extraction from a plasma module is one of the crucial aspects to solve in order to accelerate high quality electron beams with a plasma accelerator. Proper matching conditions require to focus the incoming high brightness beam down to few microns size and to capture a high divergent beam at the exit without loss of beam quality. In this regard, both active [SP02, J32, J50] and passive [J41] plasma lens experiments have been successfully designed and performed [SP03, J7, J45] to provide focusing gradients of the order of kT/m with radially symmetric focusing thus meeting matching conditions requirements for the final focus of the incoming high brightness beam down to few microns size at the plasma accelerating module and the capture of the high divergent beam at the exit without loss of beam quality. Plasma-based lenses [J22] could result in a promising compact and affordable alternative to permanent magnets [J36] in the design of transport lines [J2]. Plasma wakefields can also be used to tune the longitudinal phase space of the electron beam. Indeed, the electron beam passing through the plasma drives large wakefields that are used to manipulate the time-energy correlation of particles along the beam itself. It has been successfully demonstrated at the SPARC_LAB test facility that such a solution is highly tunable by simply adjusting the density of the plasma and can be used to imprint (or remove) any correlation onto (from) the beam. This is a fundamental requirement when dealing with largely time-energy correlated beams coming from future plasma accelerators [SP01, J3]. Innovative electron beam transverse diagnostics based on betatron radiation have been conceived and tested [J48, J51, J61]. The design of the experiments and the validation of the experimental results benefit from simplified (but accurate) models [J58, J60], developed to support the plasma source commissioning and operation. Those models, before being used, must be assessed against accurate Particle In Cell simulation [J7]. The experience gained at the SPARC_LAB test facility on photo-injector and plasma physics allowed E. Chiadroni to actively contribute to the Horizon2020 Design Study EuPRAXIA (European Plasma Research Accelerator with eXcellence In Applications), devoted to establish the scientific and technological basis required to build a compact and cost effective high energy (up to 5 GeV) machine based on plasma accelerator technology [J1]. This experience has been carried through the writing of the EuPRAXIA Conceptual Design Report (CDR) [J1, J12, J19], proposing the first

	European Research Infrastructure that is dedicated to demonstrate usability of plasma accelerators delivering high brightness beams up to 1-5 GeV for users. As natural consequence of the experience gained at the SPARC_LAB test facility, the EuPRAXIA@SPARC_LAB project [J31] has been conceived to put forward LNF as host of the EuPRAXIA European Facility. The EuPRAXIA@SPARC_LAB facility will equip LNF with a unique combination of a high brightness [J17] GeV-range electron beam generated in a state-of-the-art X-band RF linac [J24], a 0.5 PW-class laser system and the first 5th generation light source driven by a plasma accelerator. These unique features will enable at LNF new promising synergies between fundamental physics oriented research and high social impact applications.
Laser-plasma accelerator and γ-ray sources	The integration of the SPARC high brightness photo-injector and the high intensity FLAME laser [J23] has driven to the research and development of a γ-rays source based on Thomson back scattering between electron and counter-propagating laser pulses [P16]. One of the most relevant issues is the need of multi-bunch, high charge beams affecting the design and the operation of accelerating structures and diagnostics [J14, J43, J59]. A single bunch, proof of principle experiment has been successfully performed at SPARC_LAB. Electron and photon beams have been synchronised at the scale of <50 fs [J70], an essential requirement for the recent successful operation of the X-rays (~50 keV) Thomson back-scattering source [J68]. The synchronization of laser and electron beam at the scale of few tens of femtosecond is one of the most critical issues for the establishment of LWFA, based on external injection of high quality electron beams in a high intensity laser-driven plasma wave [J13, J66, P6]. The operation of the FLAME laser alone has led to electrons acceleration up to 400 MeV in 2-4 mm long plasma wave with less than 20% energy spread [J6, J15, J16]. In addition, preliminary experiments on ion acceleration by Target Normal Sheath Acceleration (TNSA) have been performed showing, for the first time, direct time-dependent measurements of energetic electrons ejected from solid targets by the interaction with a short-pulse high-intensity laser. Our snapshots have captured their evolution with an unprecedented temporal resolution, demonstrating a significant boost in charge and energy of escaping electrons when increasing the geometrical target curvature [J52, J56]. These results pave the way toward significant improvement in laser acceleration of ions using shaped targets allowing the future development of small-scale laser-ion accelerators.

Non-intercepting beam diagnostics (ODRI and ODRI2D experiments)	The research activity dedicated to non-intercepting diagnostics based on Diffraction Radiation [P34] started during the PhD. In the framework of a collaboration between DESY (Hamburg) and the University of Rome "Tor Vergata", E. Chiadroni has designed, installed and performed the whole experiment concerning the *Bunch Length Characterization at the TTF VUV-FEL* (now FLASH). The experimental apparatus was installed on the main accelerator beamline, downstream from the second compression stage, to measure the bunch longitudinal structure with a non-intercepting tool by means of Coherent Diffraction Radiation (CDR), under different bunch compression factors. The most significant result has been the demonstration, and observation for the first time, of the non-intercepting nature of CDR-based diagnostics for the bunch length measurement under FEL operation [SP12, P41, P43]. In the framework of the long-lasting collaboration with FLASH, E. Chiadroni has been awarded of a Post-Doc position at LNF from June 2006 to May 2008 funded by the European Community (CARE: Research and Development on Superconducting RF Technology for Electron Linear Accelerators) to develop a novel, non-intercepting emittance monitor based on Optical Diffraction Radiation (ODR) [P24, P33, P36]. This experiment has been later on funded by INFN (ODRI and ODRI2D experiments), performing for the first time a non-intercepting measurement of the normalized transverse emittance [P3, P27], being of particular interest for future machines, e.g. high charge density, high repetition rate linear accelerators.

Part VIII – Summary of Scientific Achievements

The quality parameters of the scientific activity, as computed on the whole scientific production, are:

Product type	Number	Data Base	Start	End
Papers [international: Journals and conferences]	230	SCOPUS	2003	2020

Total Impact factor	348.66
Total Citations	3877
Average Citations per Product	16.86
Hirsch (H) index	26
Normalized H index*	1.529
Normalized H index**	1.625

*H index divided by the academic seniority (2003-2020).
**H index divided by the academic seniority (2003-2019), taking into account one year interruption for maternity leave.

VIIIA - Scientific activity quality parameters on subsets of the research products, as requested in the announcement of the selection.

Quality parameters on the last 5 years research activity

Product Type	Number	Data Base	Start	End
Papers (peer reviewed papers)	83	SCOPUS	2015	2020

Total Impact factor	192 (on journals)
Total Citations	554 (SCOPUS)
Average Citations per Product	6.67 (SCOPUS)
Hirsch (H) index	13 (SCOPUS)

Quality indexes on the 12 selected publications on journals

Total Impact factor	101.38
Total Citations	1791 (SCOPUS)
Average Citations per Product	149.25 (SCOPUS)

Average scientific productivity

	SCOPUS
Average number of peer reviewed papers per year after PhD (2006-2020)	9

Part IX– Selected Publications (citations according to SCOPUS on 17/05/2020)

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

		IF*	Citations
SP01	Shpakov, V., Anania, M.P., Bellaveglia, M., Biagioni, A., Bisesto, F., Cardelli, F., Cesarini, M., **Chiadroni, E.**, Cianchi, A., Costa, G., Croia, M., Del Dotto, A., Di Giovenale, D., Diomede, M., Ferrario, M., Filippi, F., Giribono, A., Lollo, V., Marongiu, M., Martinelli, V., Mostacci, A., Piersanti, L., Di Pirro, G., Pompili, R., Romeo, S., Scifo, J., Vaccarezza, C., Villa, F., Zigler, A. **Longitudinal Phase-Space Manipulation with Beam-Driven Plasma Wakefields** Physical Review Letters, **122** (11), art. no. 114801 (**2019**) DOI: 10.1103/PhysRevLett.122.114801 *Personal contribution: Management of the photo-injector operation; conception, planning and management of the plasma-based acceleration experiment; measurement shifts; data analysis.*	**8.57**	**8**
SP02	Pompili, R., Anania, M.P., Bellaveglia, M., Biagioni, A., Bini, S., Bisesto, F., Brentegani, E., Cardelli, F., Castorina, G., **Chiadroni, E.**, Cianchi, A., Coiro, O., Costa, G., Croia, M., Di Giovenale, D., Ferrario, M., Filippi, F., Giribono, A., Lollo, V., Marocchino, A., Marongiu, M., Martinelli, V., Mostacci, A., Pellegrini, D., Piersanti, L., Di Pirro, G., Romeo, S., Rossi, A.R., Scifo, J., Shpakov, V., Stella, A., Vaccarezza, C., Villa, F., Zigler, A. **Focusing of High-Brightness Electron Beams with Active-Plasma Lenses** Physical Review Letters, **121** (17), art. no. 174801 (**2018**) DOI: 10.1103/PhysRevLett.121.174801 *Personal contribution: Management of the photo-injector operation; conception, planning and management of the plasma-based acceleration experiment; measurement shifts; data analysis (see invited review talk at the EAAC2017).*	**9.2**	**13**
SP03	**Chiadroni, E.**, Alesini, D., Anania, M.P., Bacci, A., Bellaveglia, M., Biagioni, A., Bisesto, F.G., Cardelli, F., Castorina, G., Cianchi, A., Croia, M., Gallo, A., Di Giovenale, D., Di Pirro, G., Ferrario, M., Filippi, F., Giribono, A., Marocchino, A., Mostacci, A., Petrarca, M., Piersanti, L., Pioli, S., Pompili, R., Romeo, S., Rossi, A.R., Scifo, J., Shpakov, V., Spataro, B., Stella, A., Vaccarezza, C., Villa, F. **Beam manipulation for resonant plasma wakefield acceleration** Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, **865** (**2017**) DOI: 10.1016/j.nima.2017.01.017	**1.66**	**6**

	Personal contribution: *Management of the photo-injector operation; conception, planning and management of the plasma-based acceleration experiment; optimization of the injector working point; characterization and optimization of the electron beam; electron beam data analysis; measurement shifts (see invited talks at the ICFA Workshop and IPAC2018).*		
SP04	Giorgianni, F**., Chiadroni, E.**, Rovere, A., Cestelli-Guidi, M., Perucchi, A., Bellaveglia, M., Castellano, M., Di Giovenale, D., Di Pirro, G., Ferrario, M., Pompili, R., Vaccarezza, C., Villa, F., Cianchi, A**.,** Mostacci, A., Petrarca, M., Brahlek, M., Koirala, N., Oh, S., Lupi, S., **Strong nonlinear terahertz response induced by Dirac surface states in Bi2Se3 topological insulator**, Nature Communications, **7**, art. no. 11421 (**2016**), DOI: 10.1038/ncomms11421 *Personal contribution: Study, design, development and management of the THz source for THz application at SPARC_LAB. Management of the photo-injector operation; characterization and optimization of the electron beam; characterization and optimization of the THz radiation; measurement shifts; electron beam data analysis.*	**12.5**	**48**
SP05	Petralia, A., Anania, M.P., Artioli, M., Bacci, A., Bellaveglia, M., Carpanese, M., **Chiadroni, E.**, Cianchi, A., Ciocci, F., Dattoli, G., Di Giovenale, D., Di Palma, E., Di Pirro, G.P., Ferrario, M., Giannessi, L., Innocenti, L., Mostacci, A., Petrillo, V., Pompili, R., Rau, J.V., Ronsivalle, C., Rossi, A.R., Sabia, E., Shpakov, V., Vaccarezza, C., Villa, F., **Two-Color Radiation Generated in a Seeded Free-Electron Laser with Two Electron Beams** Physical Review Letters, **115** (1), art. no. 014801 (**2015**) DOI: 10.1103/PhysRevLett.115.014801 *Personal contribution: Management of the photo-injector operation; characterization and optimization of the electron beam; characterization and optimization of the FEL radiation; measurement shifts; electron data analysis.*	**8.15**	**20**
SP06	Subiel, A., Moskvin, V., Welsh, G.H., Cipiccia, S., Reboredo, D., Evans, P., Partridge, M., DesRosiers, C., Anania, M.P., Cianchi, A., Mostacci, A., **Chiadroni, E.**, Di Giovenale, D., Villa, F., Pompili, R., Ferrario, M., Belleveglia, M., Di Pirro, G., Gatti, G., Vaccarezza, C., Seitz, B., Isaac, R.C., Brunetti, E., Wiggins, S.M., Ersfeld, B., Islam, M.R., Mendonca, M.S., Sorensen, A., Boyd, M., Jaroszynski, D.A. **Dosimetry of very high energy electrons (VHEE) for radiotherapy ap- plications: Using radiochromic film measurements and Monte Carlo simulations**	**3.3**	**12**

	Physics in Medicine and Biology, **59** (19), art. no. 5811 (**2014**) DOI: 10.1088/0031-9155/59/19/5811 *Personal contribution: Operation of the photo-injector; optimization of the photo-injector settings and electron beam transport down to the experimental target; characterization of the electron beam; measurement shifts; setup of the transverse and longitudinal electron beam diagnostics; electron beam data analysis; support with the user experimental.*		
SP07	Petrillo, V., Anania, M.P., Artioli, M., Bacci, A., Bellaveglia, M., **Chiadroni, E.**, Cianchi, A., Ciocci, F., Dattoli, G., Di Giovenale, D., Di Pirro, G., Ferrario, M., Gatti, G., Giannessi, L., Mostacci, A., Musumeci, P., Petralia, A., Pompili, R., Quattromini, M., Rau, J.V., Ronsivalle, C., Rossi, A.R., Sabia, E., Vaccarezza, C., Villa, F., **Observation of time-domain modulation of free-electron-laser pulses by multipeaked electron-energy spectrum** Physical Review Letters, **111** (11), art. no. 114802 (**2013**) DOI: 10.1103/PhysRevLett.111.114802 *Personal contribution: Operation of the photo-injector; Optimization of the photo-injector settings; optimization and characterization of both electron beam and FEL radiation; measurement shifts; electron beam and FEL radiation data analysis; setup of the transverse and longitudinal electron beam diagnostics.*	**8.31**	**65**
SP08	**Chiadroni, E.**, Bellaveglia, M., Calvani, P., Castellano, M., Catani, L., Cianchi, A., Di Pirro, G., Ferrario, M., Gatti, G., Limaj, O., Lupi, S., Marchetti, B., Mostacci, A., Pace, E., Palumbo, L., Ronsivalle, C., Pompili, R., Vaccarezza, C. **Characterization of the THz radiation source at the Frascati linear accelerator** Review of Scientific Instruments, **84** (2), art. no. 022703 (**2013**) DOI: 10.1063/1.4790429 *Personal contribution: Study, design, development and management of the THz source for THz user applications at SPARC_LAB. Setup of the photo-injector working point; characterization and optimization of the electron beam; characterization and optimization of the THz radiation; measurement shifts; electron data analysis.*	**1.81**	**55**
SP09	Labat, M., Bellaveglia, M., Bougeard, M., Carré, B., Ciocci, F., **Chiadroni, E.**, Cianchi, A., Couprie, M.E., Cultrera, L., Del Franco, M., Di Pirro, G., Drago, A., Ferrario, M., Filippetto, D., Frassetto, F., Gallo, A., Garzella, D., Gatti, G., Giannessi, L., Lambert, G., Mostacci, A., Petralia, A., Petrillo, V., Poletto, L.,	**7.65**	**77**

	Quattromini, M., Rau, J.V., Ronsivalle, C., Sabia, E., Serluca, M., Spassovsky, I., Surrenti, V., Vaccarezza, C., Vicario, C., **High-gain harmonic-generation free-electron laser seeded by harmonics generated in gas** Physical Review Letters, **107** (22), art. no. 224801 (**2011**) DOI: 10.1103/PhysRevLett.107.224801 *Personal contribution: Operation of the photo-injector; Optimization of the photo-injector settings; optimization and characterization of both electron beam and FEL radiation; measurement shifts; electron beam and FEL radiation data analysis; development of software and hardware for both transverse and longitudinal electron beam diagnostics.*		
SP10	Ferrario, M., Alesini, D., Bacci, A., Bellaveglia, M., Boni, R., Boscolo, M., Castellano, M., **Chiadroni, E.**, Cianchi, A., Cultrera, L., Di Pirro, G., Ficcadenti, L., Filippetto, D., Fusco, V., Gallo, A., Gatti, G., Giannessi, L., Labat, M., Marchetti, B., Marrelli, C., Migliorati, M., Mostacci, A., Pace, E., Palumbo, L., Quattromini, M., Ronsivalle, C., Rossi, A.R., Rosenzweig, J., Serafini, L., Serluca, M., Spataro, B., Vaccarezza, C., Vicario, C., **Experimental demonstration of emittance compensation with velocity bunching** Physical Review Letters, **104** (5), art. no. 054801 (**2010**) DOI: 10.1103/PhysRevLett.104.054801 *Personal contribution: commissioning and operation of the SPARC photo-injector; software development for instrumentation control and data acquisition; development of hardware for the longitudinal diagnostics; measurement shifts; data analysis.*	**7.65**	**128**
SP11	Ferrario, M., Alesini, D., Bacci, A., Bellaveglia, M., Boni, R., Boscolo, M., Castellano, M., Catani, L., **Chiadroni, E.**, Cialdi, S., Cianchi, A., Clozza, A., Cultrera, L., Di Pirro, G., Drago, A., Esposito, A., Ficcadenti, L., Filippetto, D., Fusco, V., Gallo, A., Gatti, G., Ghigo, A., Giannessi, L., Ligi, C., Mattioli, M., Migliorati, M., Mostacci, A., Musumeci, P., Pace, E., Palumbo, L., Pellegrino, L., Petrarca, M., Quattromini, M., Ricci, R., Ronsivalle, C., Rosenzweig, J., Rossi, A.R., Sanelli, C., Serafini, L., Serio, M., Sgamma, F., Spataro, B., Tazzioli, F., Tomassini, S., Vaccarezza, C., Vescovi, M., Vicario, C., **Direct measurement of the double mittance minimum in the beam dynamics of the sparc high-brightness photoinjector** Physical Review Letters, **99** (23), art. no. 234801 (**2007**) DOI: 10.1103/PhysRevLett.99.234801	**7.65**	**70**

	Personal contribution: participation to the measurement shifts for the commissioning of the SPARC photo-injector; data acquisition and data analysis.		
SP12	Ackermann, W., Asova, G., Ayvazyan, V., Azima, A., Baboi, N., Bhr, J., Balandin, V., Beutner, B., Brandt, A., Bolzmann, A., Brinkmann, R., Brovko, O.I., Castellano, M., Castro, P., Catani, L., Chiadroni, E., Choroba, S., Cianchi, A., Costello, J.T., Cubaynes, D., Dardis, J., Decking, W., Delsim-Hashemi, H., Delserieys, A., Di Pirro, G., Dohlus, M., Dsterer, S., Eckhardt, A., Edwards, H.T., Faatz, B., Feldhaus, J., Flttmann, K., Frisch, J., Frhlich, L., Garvey, T., Gensch, U., Gerth, C., Grler, M., Golubeva, N., Grabosch, H.-J., Grecki, M., Grimm, O., Hacker, K., Hahn, U., Han, J.H., Honkavaara, K., Hott, T., Hning, M., Ivanisenko, Y., Jaeschke, E., Jalmuzna, W., Jezynski, T., Kam- mering, R., Katalev, V., Kavanagh, K., Kennedy, E.T., Khodyachykh, S., Klose, K., Kocharyan, V., Krfer, M., Kollewe, M., Koprek, W., Korepanov, S., Kostin, D., Krassilnikov, M., Kube, G., Kuhlmann, M., Lewis, C.L.S., Lilje, L., Limberg, T., Lipka, D., Lhl, F., Luna, H., Luong, M., Martins, M., Meyer, M., Michelato, P., Miltchev, V., Mller, W.D., Monaco, L., Mller, W.F.O., Napieralski, O., Napoly, O., Nicolosi, P., Nlle, D., Nez, T., Oppelt, A., Pagani, C., Paparella, R., Pchalek, N., Pedregosa-Gutierrez, J., Petersen, B., Petrosyan, B., Petrosyan, G., Petrosyan, L., Pflger, J., Plnjes, E., Poletto, L., Pozniak, K., Prat, E., Proch, D., Pucyk, P., Radcliffe, P., Redlin, H., Rehlich, K., Richter, M., Roehrs, M., Roensch, J., Romaniuk, R., Ross, M., Rossbach, J., Rybnikov, V., Sachwitz, M., Saldin, E.L., Sandner, W., Schlarb, H., Schmidt, B., Schmitz, M., Schmser, P., Schneider, J.R., Schneidmiller, E.A., Schnepp, S., Schreiber, S., Seidel, M., Sertore, D., Shabunov, A.V., Simon, C., Simrock, S., Sombrowski, E., Sorokin, A.A., Spanknebel, P., Spesyvtsev, R., Staykov, L., Steffen, B., Stephan, F., Stulle, F., Thom, H., Tiedtke, K., Tischer, M., Toleikis, S., Treusch, R., Trines, D., Tsakov, I., Vogel, E., Weiland, T., Weise, H., Wellh- fer, M., Wendt, M., Will, I., Winter, A., Wittenburg, K., Wurth, W., Yeates, P., Yurkov, M.V., Zagorodnov, I., Zapfe, K. **Operation of a free-electron laser from the extreme ultraviolet to the water window** Nature Photonics, **1** (6), pp. 336-342 **(2007)** DOI: 10.1038/nphoton.2007.76 *Personal contribution: Development of the algorithm for the cross-check of the normalized transverse emittance measurement at high energy.*	**25**	**1289**

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Peer reviewed paper in the last 5 years (2015-2020): 83 (Source: SCOPUS)

Paper #	Authors	Title and reference	Cited by	IF	Quality Factor
J1	Nghiem, P.A.P., Assmann, R., Beck, A., Chance, A., **Chiadroni, E.**, et al.,	*Toward a plasma-based accelerator at high beam energy with high beam charge and high beam quality* Phys. Rev. Accel. Beams, 23 (2020) DOI: 10.1103/PhysRevAccelBeams.23.031301	0	1.97	0
J2	Pompili, R., **Chiadroni, E.**, Cianchi, A., Del Dotto, A., Faillace, L., Ferrario, M., Iovine, P., Masullo, M.R.	*Plasma lens-based beam extraction and removal system for plasma wakefield acceleration experiments* Phys. Rev. Accel. Beams, 22 (2019) DOI: 10.1103/PhysRevAccelBeams.22.121302	0	1.97	0
J3	Shpakov, V., Anania, M.P., Bellaveglia, M., Biagioni, A., Bisesto, F., Cardelli, F., Cesarini, M., **Chiadroni, E.**, et al.,	*Longitudinal Phase-Space Manipulation with Beam-Driven Plasma Wakefields* Physical Review Letters, 122 (2019) DOI: 10.1103/PhysRevLett.122.114801	8	8.57	68.56
J4	Biagioni, A., Alesini, D., Anania, M.P., Bellaveglia, M., Bini, S., Bisesto, F., Brentegani, E., **Chiadroni, E**.,et al.,	*Temperature analysis in the shock waves regime for gas-filled plasma capillaries in plasma-based accelerators* Journal of Instrumentation, 14 (2019) DOI: 10.1088/1748-0221/14/03/C03002	1	1.43	1.43
J5	Curcio, A., Anania, M., Bisesto, F., **Chiadroni, E**., et al.,	*Towards the detection of nanometric emittances in plasma accelerators* Journal of Instrumentation, 14 (2019) DOI: 10.1088/1748-0221/14/02/C02004	0	1.43	0
J6	Pompili, R., Anania, M.P., Bisesto, F., Botton, M., **Chiadroni, E.**, et al.,	*Ultrafast evolution of electric fields from high-intensity laser-matter interactions* Scientific Reports, 8 (2018) DOI: 10.1038/s41598-018-21711-4	7	4.12	28.84
J7	Marocchino, A., **Chiadroni, E**., Ferrario, M., Mira, F., Rossi, A.R.	*Design of high brightness Plasma Wakefield Acceleration experiment at SPARC_LAB test facility with particle-in-cell simulations* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.068	3	1.58	4.74
J8	Filippi, F., Anania, M.P., Biagioni, A., Brentegani, E., **Chiadroni, E**., et al.,	*Plasma ramps caused by outflow in gas-filled capillaries* Nucl. Instrum. Methods Phys. Res., A, 909 (2018)	0	1.58	0

		DOI: 10.1016/j.nima.2018.02.102			
J9	Romeo, S., **Chiadroni, E.**, Croia, M., Ferrario, M., Giribono, A., Marocchino, A., Mira, F., Pompili, R., Rossi, A.R., Vaccarezza, C.	*Simulation design for forthcoming high quality plasma wakefield acceleration experiment in linear regime at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.081	0	1.58	0
J10	Shpakov, V., **Chiadroni, E.**, Curcio, A., Fares, H., Ferrario, M., Marocchino, A., Mira, F., Petrillo, V., Rossi, A.R., Romeo, S.	*Plasma acceleration limitations due to betatron radiation* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.058	1	1.58	1.58
J11	Filippi, F., Anania, M.P., Biagioni, A., Brentegani, E., **Chiadroni, E.**, Cianchi, A., Deng, A., Ferrario, M., Pompili, R., Rosenzweig, J., Zigler, A.	*Tapering of plasma density ramp profiles for adiabatic lens experiments* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.04.037	4	1.58	6.32
J12	Walker, P.A., Assmann, R.W., Brinkmann, R., **Chiadroni, E.**, Dorda, U., Ferrario, M., Kocon, D., Marchetti, B., Pribyl, L., Specka, A., Walczak, R.	*Layout considerations for a future electron plasma research accelerator facility EuPRAXIA* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.028	0	1.58	0
J13	Rossi, A.R., Petrillo, V., Bacci, A., **Chiadroni, E.**, Cianchi, A., Ferrario, M., Giribono, A., Marocchino, A., Conti, M.R., Serafini, L., Vaccarezza, C.	*Plasma boosted electron beams for driving Free Electron Lasers* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.092	3	1.58	4.74
J14	Marongiu, M., Castellano, M., **Chiadroni, E.**, Cianchi, A., Franzini, G., Giribono, A., Mostacci, A., Palumbo, L., Shpakov, V., Stella, A., Variola, A.	*Energy measurements by means of transition radiation in novel Linacs* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.093	0	1.58	0
J15	Bisesto, F.G., Anania, M.P., Botton, M., **Chiadroni, E.**, Cianchi, A., Curcio, A., Ferrario, M., Galletti, M., Henis, Z., Pompili, R., Schleifer, E., Zigler, A.	*Evolution of the electric fields induced in high intensity laser–matter interactions* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.03.040	1	1.58	1.58
J16	Costa, G., Anania, M.P., Bisesto, F., **Chiadroni, E.**, Cianchi, A., Curcio, A., Ferrario, M., Filippi, F., Marocchino, A., Mira, F., Pompili, R., Zigler, A.	*Characterization of self-injected electron beams from LWFA experiments at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 909 (2018)	2	1.58	3.16

		DOI: 10.1016/j.nima.2018.02.008			
J17	Giribono, A., Bacci, A., **Chiadroni, E**., et al.,	*EuPRAXIA@SPARC_LAB: The high-brightness RF photo-injector layout proposal* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.03.009	2	1.58	3.16
J18	Petrillo, V., Bacci, A., **Chiadroni, E.**, et al.,	*Free Electron Laser in the water window with plasma driven electron beams* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.036	0	1.58	0
J19	Giribono, A., Bacci, A., **Chiadroni, E.**, et al.,	*RF injector design studies for the trailing witness bunch for a plasma-based user facility* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.01.042	2	1.58	3.16
J20	Brentegani, E., Anania, M.P., Atzeni, S., Biagioni, A., **Chiadroni, E.**, et al.,	*Numerical studies on capillary discharges as focusing elements for electron beams* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.03.012	1	1.58	1.58
J21	Bisesto, F.G., Anania, M.P., Botton, M., Castellano, M., **Chiadroni, E.**, et al.,	*Recent studies on single-shot diagnostics for plasma accelerators at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.059	0	1.58	0
J22	Rosenzweig, J.B., Filippi, F., Zigler, A., Anania, M.P., Andonian, G., Biagioni, A., **Chiadroni, E.,** et al.,	*Adiabatic plasma lens experiments at SPARC* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.016	1	1.58	1.58
J23	Bisesto, F.G., Anania, M.P., Bellaveglia, M., **Chiadroni, E.**, et al.,	*The FLAME laser at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.027	7	1.58	11.06
J24	Diomede, M., Alesini, D., Bellaveglia, M., Buonomo, B., Cardelli, F., Catalan Lasheras, N., **Chiadroni, E.**,et al.,	*Preliminary RF design of an X-band linac for the EuPRAXIA@SPARC_LAB project* Nucl. Instrum. Methods Phys. Res., A, 909 (2018)	0	1.58	0

		DOI: 10.1016/j.nima.2018.01.032			
J25	Vaccarezza, C., Alesini, D., Bacci, A., Cianchi, A., **Chiadroni, E**.,et al.,	*EUPRAXIA@SPARC_LAB: Beam dynamics studies for the X-band Linac* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.01.100	1	1.58	1.58
J26	Cianchi, A., Alesini, D., Anania, M.P., Biagioni, F., Bisesto, F., **Chiadroni, E.**, et al.,	*Conceptual design of electron beam diagnostics for high brightness plasma accelerator* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.095	1	1.58	1.58
J27	Biagioni, A., Anania, M.P., Bellaveglia, M., Brentegani, E., Castorina, G., **Chiadroni, E.**, et al.,	*Wake fields effects in dielectric capillary* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.01.028	0	1.58	0
J28	Pompili, R., Anania, M.P., Bellaveglia, M., Biagioni, A., Bini, S., Bisesto, F., **Chiadroni, E.**, et al.,	*Recent results at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.01.071	2	1.58	3.16
J29	**Chiadroni, E.**,et al.,	*Overview of plasma lens experiments and recent results at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.02.014	5	1.58	7.9
J30	Scifo, J., Alesini, D., Anania, M.P., Bellaveglia, M., Bellucci, S., Biagioni, A., Bisesto, F., Cardelli, F., **Chiadroni, E.**, et al.,	*Nano-machining, surface analysis and emittance measurements of a copper photocathode at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.01.041	5	1.58	7.9
J31	Ferrario, M., Alesini, …, **Chiadroni, E.**,et al.,	*EuPRAXIA@SPARC_LAB Design study towards a compact FEL facility at LNF* Nucl. Instrum. Methods Phys. Res., A, 909 (2018) DOI: 10.1016/j.nima.2018.01.094	10	1.58	15.8
J32	Pompili, R., Anania, M.P., Bellaveglia, M., Biagioni, A., Bini, S., Bisesto, F., Brentegani, E., Cardelli, F., Castorina, G., **Chiadroni, E.,** et al.,	*Focusing of High-Brightness Electron Beams with Active-Plasma Lenses* Physical Review Letters, 121 (2018) DOI: 10.1103/PhysRevLett.121.174801	13	9.2	119.6

J33	Filippi, F., Anania, M.P., Biagioni, A., **Chiadroni, E.**, Cianchi, A., Ferber, Y., Ferrario, M., Zigler, A.	*3D-printed capillary for hydrogen filled discharge for plasma based experiments in RF-based electron linac accelerator* Review of Scientific Instruments, 89 (2018) DOI: 10.1063/1.5010264	1	1.74	1.74
J34	Fares, H., Yamada, M., **Chiadroni, E.**, Ferrario, M.	*Quantum-mechanical analysis of low-gain free-electron laser oscillators* Nucl. Instrum. Methods Phys. Res., A, 889 (2018) DOI: 10.1016/j.nima.2018.01.076	0	1.58	0
J35	Cianchi, A., Anania, M.P., Bisesto, F., Chiadroni, E., et al.,	*Frontiers of beam diagnostics in plasma accelerators: Measuring the ultra-fast and ultra-cold* Physics of Plasmas, 25 (2018) DOI: 10.1063/1.5017847	5	1.94	9.7
J36	Pompili, R., Anania, M.P., **Chiadroni, E.**, et al.,	*Compact and tunable focusing device for plasma wakefield acceleration* Review of Scientific Instruments, 89 (2018) DOI: 10.1063/1.5006134	6	1.74	10.44
J37	Bisesto, F.G., Castellano, M., **Chiadroni, E.**, Cianchi, A.	*Zemax simulations describing collective effects in transition and diffraction radiation* Optics Express, 26 (2018) DOI: 10.1364/OE.26.005075	5	3.95	19.75
J38	Curcio, A., Anania, M.P., …, **Chiadroni, E.**, et al.,	*Electro-Optical Detection of Coherent Radiation Induced by Relativistic Electron Bunches in the Near and Far Fields* Physical Review Applied, 9 (2018) DOI: 10.1103/PhysRevApplied.9.024004	7	4.57	31.99
J39	Lorusso, A., Trovo, M., Demidovich, A., Cinquegrana, P., Gontad, F., Broitman, E., **Chiadroni, E.**, Perrone, A.	*Pulsed laser deposition of yttrium photocathode suitable for use in radio-frequency guns* Applied Physics A: Materials Science and Processing, 123 (2017) DOI: 10.1007/s00339-017-1396-1	4	1.87	7.48
J40	Fares, H., **Chiadroni, E.**	*Unified Analysis for Calculating the Incoherent Spontaneous Emission of Cooperative Radiations* Chinese Physics Letters, 34 (2017) DOI: 10.1088/0256-307X/34/11/114101	1	0.79	0.79
J41	Marocchino, A., Anania,	*Experimental characterization of the effects*	18	3.68	66.24

	M.P., ..., **Chiadroni, E.**, et al.,	*induced by passive plasma lens on high brightness electron bunches* Applied Physics Letters, 11 (2017) DOI: 10.1063/1.4999010			
J42	Curcio, A., Anania, M., Bisesto, F., **Chiadroni, E.**, et al.,	*Single-shot non-intercepting profile monitor of plasma-accelerated electron beams with nanometric resolution* Applied Physics Letters, 11 (2017) DOI: 10.1063/1.4998932	7	3.68	25.76
J43	Marongiu, M., Alesini, D., **Chiadroni, E.**, et al.,	*Thermal behavior of the optical transition radiation screens for the ELI-NP Compton Gamma source* Nucl. Instrum. Methods Phys. Res., A, 865 (2017) DOI: 10.1016/j.nima.2016.07.040	1	1.66	1.66
J44	Cianchi, A., Anania, M.P., Bellaveglia, M., Bisesto, F., Castellano, M., **Chiadroni, E.**, et al.,	*Transverse emittance diagnostics for high brightness electron beams* Nucl. Instrum. Methods Phys. Res., A, 865 (2017) DOI: 10.1016/j.nima.2016.11.063	6	1.66	9.96
J45	**Chiadroni, E.**, et al.,	*Beam manipulation for resonant plasma wakefield acceleration* Nucl. Instrum. Methods Phys. Res., A, 865 (2017) DOI: 10.1016/j.nima.2017.01.017	6	1.66	9.96
J46	Villa, F., Anania, …, **Chiadroni, E.**, et al.,	*Generation and characterization of ultra-short electron beams for single spike infrared FEL radiation at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 865 (2017) DOI: 10.1016/j.nima.2017.02.042	1	1.66	1.66
J47	Shpakov, V., **Chiadroni, E.**, Curcio, A., Fares, H., Ferrario, M., Marocchino, A., Petrillo, V., Rossi, A.R., Romeo, S.	*Study of the beam tolerance for plasma based ion channel lasers* Nucl. Instrum. Methods Phys. Res., B, 402 (2017) DOI: 10.1016/j.nimb.2017.03.107	0	1.4	0
J48	Curcio, A., Anania, M., Bisesto, F., **Chiadroni, E.**, et al.,	*First measurements of betatron radiation at FLAME laser facility* Nucl. Instrum. Methods Phys. Res., B, 402 (2017) DOI: 10.1016/j.nimb.2017.03.106	3	1.4	4.2

J49	Zhu, J., **Chiadroni, E.**, Assmann, R., Bellaveglia, M., et al.,	*Misalignment measurement of femtosecond electron bunches with THz repetition rate* Phys. Rev. Accel. Beams, 20 (2017) DOI: 10.1103/PhysRevAccelBeams.20.042801	2	1.63	3.26
J50	Pompili, R., Anania, M.P., ..., **Chiadroni, E.**, et al.,	*Experimental characterization of active plasma lensing for electron beams* Applied Physics Letters, 110 (2017) DOI: 10.1063/1.4977894	29	3.68	106.72
J51	Curcio, A., Anania, M., Bisesto, F., **Chiadroni, E.**, et al.,	*Trace-space reconstruction of low-emittance electron beams through betatron radiation in laser-plasma accelerators* Phys. Rev. Accel. Beams, 20 (2017) DOI: 10.1103/PhysRevAccelBeams.20.012801	15	1.63	24.45
J52	Pompili, R., Anania, M.P., Bisesto, F., Botton, M., Castellano, M., **Chiadroni, E.**, et al.,	*Sub-picosecond snapshots of fast electrons from high intensity laser-matter interactions* Optics Express, 24 (2016) DOI: 10.1364/OE.24.029512	10	3.65	36.5
J53	Paroli, B., **Chiadroni, E.**, Ferrario, M., Potenza, M.A.C.	*A systematic study of the asymmetric lateral coherence of radiation emitted by ultra-relativistic particles in laser-driven accelerators* Nucl. Instrum. Methods Phys. Res., A, 839 (2016) DOI: 10.1016/j.nima.2016.09.032	7	1.64	11.48
J54	Siano, M., Paroli, B., **Chiadroni, E.**, Ferrario, M., Potenza, M.A.C.	*Note: Nanosecond LED-based source for optical modeling of scintillators illuminated by partially coherent X-ray radiation* Review of Scientific Instruments, 87 (2016) DOI: 10.1063/1.4972891	1	1.63	1.63
J55	Lorusso, A., Gontad, F., Solombrino, L., **Chiadroni, E.**, Broitman, E., Perrone, A.	*Tight comparison of Mg and Y thin film photocathodes obtained by the pulsed laser deposition technique* Nucl. Instrum. Methods Phys. Res., A, 836 (2016) DOI: 10.1016/j.nima.2016.08.049	5	1.64	8.2
J56	Pompili, R., Anania, M.P., Bisesto, F., Botton, M., Castellano, M., **Chiadroni, E.**, et al.,	*Femtosecond dynamics of energetic electrons in high intensity laser-matter interactions* Scientific Reports, 6 (2016)	19	4.62	87.78

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J57	Filippi, F., Anania, M.P., Biagioni, A., **Chiadroni, E.**, Cianchi, A., Ferrario, M., Mostacci, A., Palumbo, L., Zigler, A.	*Spectroscopic measurements of plasma emission light for plasma-based acceleration experiments* Journal of Instrumentation, 11 (2016) DOI: 10.1088/1748-0221/11/09/C09015	11	1.4	15.4
J58	Marocchino, A., Massimo, F., Rossi, A.R., **Chiadroni, E.**, Ferrario, M.	*Efficient modeling of plasma wakefield acceleration in quasi-non-linear-regimes with the hybrid code Architect* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.03.005	24	1.64	39.36
J59	Cianchi, A., Anania, M.P., Bisesto, F., Castellano, M., **Chiadroni, E.**, Pompili, R., Shpakov, V.	*Observations and diagnostics in high brightness beams* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.03.076	7	1.64	11.48
J60	Romeo, S., Anania, M.P., **Chiadroni, E.**, Croia, M., Ferrario, M., Marocchino, A., Pompili, R., Vaccarezza, C.	*Beam dynamics in resonant plasma wakefield acceleration at SPARC_LAB* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.02.104	1	1.64	1.64
J61	Shpakov, V., Anania, M.P., Biagioni, A., **Chiadroni, E.**, et al.,	*Betatron radiation based diagnostics for plasma wakefield accelerated electron beams at the SPARC_LAB test facility* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.02.074	5	1.64	8.2
J62	Anania, M.P., Biagioni, A., **Chiadroni, E.**, et al.,	*Plasma production for electron acceleration by resonant plasma wave* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.02.029	15	1.64	24.6
J63	Filippi, F., Anania, M.P., Bellaveglia, M., Biagioni, A., **Chiadroni, E.**,et al.,	*Plasma density characterization at SPARC_LAB through Stark broadening of Hydrogen spectral lines* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.02.071	4	1.64	6.56
J64	Villa, F., Anania, M.P., Bellaveglia, M., Bisesto, F., **Chiadroni, E.**, et al.,	*Laser pulse shaping for high gradient accelerators* Nucl. Instrum. Methods Phys. Res., A, 829	5	1.64	8.2

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J65	Bisesto, F.G., Anania, M.P., Bacci, A.L., Bellaveglia, M., **Chiadroni, E.**, et al.,	*Laser-capillary interaction for the EXIN project* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.01.037	5	1.64	8.2
J66	Rossi, A.R., Anania, M.P., Bacci, A., Belleveglia, M., Bisesto, F.G., **Chiadroni, E.**, et al.,.	*Stability study for matching in laser driven plasma acceleration* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.02.015	9	1.64	14.76
J67	Pompili, R., Anania, M.P., Bellaveglia, M., Biagioni, A., Bisesto, F., **Chiadroni, E.**, et al.,	*Beam manipulation with velocity bunching for PWFA applications* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.01.061	22	1.64	36.08
J68	Vaccarezza, C., Alesini, D., …, **Chiadroni, E.**, et al.,	*The SPARC_LAB Thomson source* Nucl. Instrum. Methods Phys. Res., A, 829 (2016) DOI: 10.1016/j.nima.2016.01.089	22	1.64	36.08
J69	Biagioni, A., Anania, M.P., Bellaveglia, M., **Chiadroni, E.**, et al.,	*Electron density measurement in gas discharge plasmas by optical and acoustic methods* Journal of Instrumentation, 11 (2016) DOI: 10.1088/1748-0221/11/08/C08003	5	1.4	7
J70	Pompili, R., Anania, M.P., Bellaveglia, M., Biagioni, A., Castorina, G., **Chiadroni, E**., et al.,	*Femtosecond timing-jitter between photo-cathode laser and ultra-short electron bunches by means of hybrid compression* New Journal of Physics, 18 (2016) DOI: 10.1088/1367-2630/18/8/083033	15	3.86	57.9
J71	Giorgianni, F., **Chiadroni, E.**, Rovere, A., Cestelli-Guidi, M., Perucchi, A., Bellaveglia, M., Castellano, et al.,	*Strong nonlinear terahertz response induced by Dirac surface states in Bi 2 Se 3 topological insulator* Nature Communications, 7 (2016) DOI: 10.1038/ncomms11421	48	12.45	597.6
J72	Lorusso, A., Anni, M., Caricato, A.P., Gontad, F., Perulli, A., Taurino, A., Perrone, A., **Chiadroni, E.**	*Deposition of y thin films by nanosecond UV pulsed laser ablation for photocathode application* Thin Solid Films, 603 (2016)	6	2	12

		DOI: 10.1016/j.tsf.2016.03.008			
J73	Lorusso, A., Gontad, F., Caricato, A.P., **Chiadroni, E.**, Broitman, E., Perrone, A.	*Structural and morphological properties of metallic thin films grown by pulsed laser deposition for photocathode application* Applied Physics A: Materials Science and Processing, 122 (2016) DOI: 10.1007/s00339-016-9717-3	4	1.64	6.56
J74	Giorgianni, F., Anania, M.P., Bellaveglia, M., Biagioni, A., **Chiadroni, E.**, et al.,	*Tailoring of highly intense THz radiation through high brightness electron beams longitudinal manipulation* Applied Sciences, 6 (2016) DOI: 10.3390/app6020056	11	1.79	19.69
J75	Siano, M., Paroli, B., **Chiadroni, E.**, Ferrario, M., Potenza, M.A.C.	*Measurement of power spectral density of broad-spectrum visible light with heterodyne near field scattering and its scalability to betatron radiation* Optics Express, 23 (2015) DOI: 10.1364/OE.23.032888	6	3.97	23.82
J76	Paroli, B., **Chiadroni, E.**, Ferrario, M., Potenza, M.A.C.	*Analogical optical modeling of the asymmetric lateral coherence of betatron radiation* Optics Express, 23 (2015) DOI: 10.1364/OE.23.029912	10	3.97	39.7
J77	Cianchi, A., Alesini, D., Anania, M.P., Bacci, A., Bellaveglia, M., Castellano, M., **Chiadroni, E.**, et al.,	*Six-dimensional measurements of trains of high brightness electron bunches* Phys. Rev. ST Accel. Beams, 18 (2015) DOI: 10.1103/PhysRevSTAB.18.082804	26	2.2	57.2
J78	Paroli, B., **Chiadroni, E.**, Ferrario, M., Mostacci, A., Petrillo, V., Potenza, M.A.C., Rossi, A.R., Serafini, L.	*Coherence properties and diagnostics of betatron radiation emitted by an externally-injected electron beam propagating in a plasma channel* Nucl. Instrum. Methods Phys. Res., B, 355 (2015) DOI: 10.1016/j.nimb.2015.03.070	10	1.54	15.4
J79	Shpakov, V., Bellaveglia, M., Castellano, M., **Chiadroni, E.**, et al.,	*Pre-wave zone studies of Coherent Transition and Diffraction Radiation* Nucl. Instrum. Methods Phys. Res., B, 355 (2015) DOI: 10.1016/j.nimb.2015.03.047	1	1.39	1.39
J80	Petralia, A., Anania, M.P., Artioli, M., Bacci, A., Bellaveglia, M., Carpanese, M.,	*Two-Color Radiation Generated in a Seeded Free-Electron Laser with Two Electron Beams*	20	8.15	163

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J81	Paroli, B., **Chiadroni, E.**, Ferrario, M., Mostacci, A., Petrillo, V., Potenza, M.A.C., Rossi, A.R., Serafini, L.	*Coherence properties and diagnostics of betatron radiation emitted by an externally-injected electron beam propagating in a plasma channel* Nucl. Instrum. Methods Phys. Res., B, 355 (2015) DOI: 10.1016/j.nimb.2015.03.070	4	1.39	5.56
J82	Marchetti, B., Bacci, A., **Chiadroni, E.**, Cianchi, A., Ferrario, M., Mostacci, A., Pompili, R., Ronsivalle, C., Spataro, B., Zagorodnov, I.	*Novel schemes for the optimization of the SPARC narrow band THz source* Review of Scientific Instruments, 86 (2015) DOI: 10.1063/1.4922882	8	1.52	12.16
J83	Lorusso, A., Gontad, F., Broitman, E., **Chiadroni, E**., Perrone, A.	*Characterisation of Pb thin films prepared by the nanosecond pulsed laser deposition technique for photocathode application* Thin Solid Films, 579 (2015) DOI: 10.1016/j.tsf.2015.02.033	11	1.96	21.56

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P1. Alaimo, M. D., **Chiadroni, E.** et al.,
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P3. Cianchi, A., **Chiadroni, E.** et al.,
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10.1088/1367-2630/16/11/113029

P4. Subiel, A., **Chiadroni, E.** et al.,
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P5. Ronsivalle, C., **Chiadroni, E.** et al.,
Large-bandwidth two-color free-electron laser driven by a comb-like electron beam
New Journal of Physics **16**, 33018 (2014) doi:
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P6. Rossi, Andrea R., **Chiadroni, E.** et al.,
The External-Injection experiment at the SPARC LAB facility
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doi: 10.1016/j.nima.2013.10.003

P7. Ferrario, M., **Chiadroni, E.** et al.,
IRIDE: Interdisciplinary research infrastructure based on dual electron linacs and lasers
Nucl. Instr. and Methods in Physics Research A **740**, 138-146 (2014)
doi: 10.1016/j.nima.2013.11.040

P8. Anania, M. P., **Chiadroni, E.** et al.,
Design of a plasma discharge circuit for particle wakefield acceleration
Nucl. Instr. and Methods in Physics Research A **740**, 193-196 (2014)
doi: 10.1016/j.nima.2013.10.053 SPARC LAB

P9. Pompili, R., **Chiadroni, E.** et al.,
First single-shot and non-intercepting longitudinal bunch diagnostics for comb-like beam by means of Electro-Optic Sampling
Nucl. Instr. and Methods in Physics Research A **740**, 216-221 (2014)
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Transformer ratio studies for single bunch plasma wakefield acceleration Nucl. Instr. and Methods in Physics Research A **740**, 242-245 (2014)
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