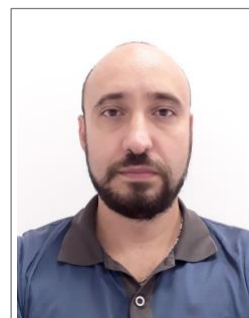


Curriculum Vitae et Studiorum

Domenico DORIA

(Feb 2021)



PERSONAL DATA

Place and Date of birth: Lecce (IT), 1 August 1974

Sex: Male

Citizenship: Italian

Present position: Senior Research II (CSII) at ELI Nuclear Physics

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Short Summary

Domenico Doria is Senior Research at ELI Nuclear Physics – IFIN in Magurele, Romania. After studies in Italy (Laurea in Physics at Salento University, and INFN member), he obtained a PhD in Plasma Physics and Applied Electronics at Salento University in 2006. His research interests lay in the area of intense laser-plasma interactions, with particular expertise in laser-driven acceleration of ion beams. He has been involved in Italian national INFN (National Institute for Nuclear Physics) projects such as PLAIA (Plasma Laser Ablation for Ion Acceleration); and during his PhD studies he has been awarded with a Marie Curie Fellowship at DCU (Dublin City University, Dublin, Ireland), where he carried out plasma VIS–UVU spectroscopy of laser ion sources. He has been involved in the UK-wide EPSRC project such as LIBRA (Basic Technology, 2007-12) and more recently European

multimillion project ELI (Extreme Light Infrastructure, from 2013), and A-SAIL (Programme Grant, from 2013), aimed to the advancement of laser-ion acceleration towards future medical applications. He has contributed to the investigation of X-ray laser, EoS of Warm Dense Matter, Laboratory Astrophysics phenomena (e.g. supernova remnant, astrophysical jet), development of innovative acceleration schemes, and the application of laser-driven proton beams to plasma radiography (which has been used to investigate a broad range of plasma phenomena including plasma shockwaves), and high dose rate radiobiology. D.D is a frequent user of the Central Laser Facility at the Rutherford Appleton Laboratory, and, as a member of QUB Centre for Plasma Physics, has contributed to developing the TARANIS laser facility in Belfast. He has been involved in many experiments in several facilities around the world, achieving significant results in laser plasma physics. He is the author or coauthor of more than **90 publications** on peer-reviewed journals (with a total of about **1500 citations** and a **h-index 20** to date, ISI data) including 2 Nature Communications and 9 Physical Review Letters. From 2013 to 2015, D.D. has collaborated to teaching activities at the Physics Department of the Queens University of Belfast for Level 4 students (PHY4029 - Synoptic Physics, Lecturer on Physics of Non-linear Systems).

EDUCATION

Ph.D. Degree in Plasma Physics obtained from Università del Salento (Lecce – Italy) on 28 Sept 2006.

Thesis: “Diagnostic and simulation of ion beam extracted from laser plasma”

Master Degree (Laurea) in Physics obtained from Università del Salento on 06 May 2002.

Thesis: “Characterization of plasma generated from solid target by UV laser”(in Italian)

POSITIONS, FELLOWSHIPS, GRANTS

19/03/2018–present: **Senior Researcher** in Laser-driven ion acceleration at Extreme Light Infrastructure - Nuclear Physics at Magurele, Romania.

14/12/2006–16/03/2018: **PDRA** at the Physics Department, Queens University of Belfast.

14/12/2006–16/03/2018: **CPP** Member (Centre for Plasma Physics) at University of Belfast.

03/04/2005–30/09/2005: International **Marie-Curie Fellowship** at the DCU University, Dublin - IE

01/05/2003–30/06/2006: **Ph.D. Studentship** at Università del Salento (Lecce – Italy)

01/06/2003–31/05/2006 **Scientific Fellowship** from INFN (National Institute for Nuclear Physics)

01/04/2002–30/09/2002 **Scientific Cooperation** contract at the Applied Electronics Laboratory of the Department of Physics, Università del Salento (Lecce – Italy)

RESEARCH PROJECTS

The following list includes approved projects with participation as main scientist and/or relevant indication of manpower and/or significant contributions to proposal writing and/or project activity and management:

01/10/2020–present: **INSIGT** project (Investigation of laser-driven gamma burst) on the investigation of the generation of gamma-ray pulses via high-power laser-matter interaction and energy partition among other secondary particles. PI of the project (budget 200.000 €)

01/01/2019–present: **PMHLB** project (Frontier Research in Photon-Matter Interaction Using Extreme Helical Beams) about the investigation of laser-matter interaction with a high-power Laguerre-Gaussian laser beam.

21/05/2013–present: **A-SAIL** project (Advanced laser-ion acceleration strategies towards next generation healthcare) for development of innovative healthcare technologies and laser-driven ion acceleration mechanisms study, UK Consortium.

20/04/2011–present: **ELI** project (Extreme-Light-Infrastructure) European Consortium.

14/12/2009–30/04/2012: **LIBRA** project (Laser Induced Beams of Radiation and their Applications) for development of novel techniques of acceleration of ions based on the use of high-power lasers and applications, UK Consortium.

14/12/2006–13/12/2009: **INI** (Investment Northern Ireland) Start Project with industrial link for development of innovative Far-Infrared sensors, QUB, Belfast - UK

03/04/2005–30/09/2005: **Marie Curie** Pre-doctoral Fellow on laser plasma spectroscopy in the Vis-IR and VUV with a view to characterising early phase laser target interactions at the DCU University, Dublin - IE

01/06/2003–31/05/2006 **INFN-PLAIA**. Project (Plasma Laser Ablation for Ion Acceleration) on development of Laser Ion Source (LIS), Università del Salento, Lecce – IT

TEACHING AND SUPERVISIONS

Teaching:

2013-2015: Level 4 Module: PHY4029 - Synoptic Physics, Lecturer on Physics of Non-linear Systems, QUB, Belfast – UK (see attachment at the end of the document)

Supervisions:

M.Sci Physics: Sarah Finnegan (2016-2017), co-supervision with Dr. G. Sarri, thesis on Laboratory Astrophysics, QUB, Belfast – UK

M.Sci Physics: Hannah Johnston (2014-2015), co-supervision with Dr. G. Sarri, thesis on Shockwaves in magnetic field, QUB, Belfast - UK

TALKS AND SEMINARS

This list includes only talks in national and international conferences and seminars in universities abroad. Not included are several poster contributions to conferences and talks in small informal workshops and collaboration meetings.

ORAL CONTRIBUTIONS

30/10/2019: Overview of ELI-NP status and laser commissioning experiments with the 10PW class-laser, PPLA'19 - PLASMA PHYSICS BY LASERS AND APPLICATIONS 2019, Pisa, Italy, 28-31 October 2019 (Invited)

07/10/2019: Diagnostics capabilities and status for 10 PW experiments, 1st ELI-NP User Workshop, Magurele-Bucharest, Romania, 7-11 October 2019 (Invited)

11/07/2019: Overview of ELI-NP status and commissioning experiments with the 10 PW class-laser, LPHYS'19 - 28th ANNUAL INTERNATIONAL LASER PHYSICS WORKSHOP, Gyeongju, Korea, 8-12 July 2019 (Invited)

07/12/2018: ELI, advancing the frontiers of science, IMSCN - The International Medical Students' Congress of Bucharest, Bucharest, Romania, 5-9 December 2018 (Invited)

27/09/2018: Ion acceleration via ultra-intense laser, CAS – The CERN Accelerator School, Constanta, Romania, 16-29 September 2018 (Invited)

06/07/2018: Laser acceleration of ions, CSSP18 - Carpathian summer school of physics 2018, Sinai, Romania, 01-14 July 2018 (Invited)

28/06/2018: Carbon ion acceleration via ultra-short laser pulse employing ultra-thin foils, Nuclear Photonics, Brasov, Romania, 24-29 June 2018

29/08/2017: Proton irradiation of human cell lines at ultrahigh dose rates, LaserLab User Meeting, Vilnius, Lithuania, 27-29 August 2017 (Invited)

29/06/2017: Development and stability of shockwaves generated in tenuous laboratory plasmas, 44nd EPS Conference on Plasma Physics – Belfast, UK, 26-30 June 2017 (Invited)

05/07/2016: Highly pulsed radiobiology under oxic and hypoxic conditions employing laser driven proton beams, 43nd EPS Conference on Plasma Physics – Leuven, Belgium, 04-08 July 2016

23/05/2016: Workshops on secondary source and gamma source protocols, ELItrans Workshop, Magurele, Romania, 23-24 May 2016 (Invited)

11/02/2016: Ion acceleration and applications, APOLLON User Meeting, Paris, France, 11-12 February 2016

06/09/2015: Radiobiology with laser accelerated ion bursts, LaserLab User Meeting, Coimbra, Portugal, 6-8 September 2015 (Invited)

25/06/2015: Ion acceleration from ultrathin foils: dependence on target thickness and laser polarization, 42nd EPS Conference on Plasma Physics – Lisbon, Portugal, 22-26 June 2015

03/10/2013: Collisionless shock waves development in tenuous magnetised Plasma, PPLA 2013 - Plasma Physics by Laser and Applications - Lecce, Italy, 2-4 October 2013

05/07/2013: Study of Collisionless shock waves in tenuous magnetised plasma, 40th EPS Conference on Plasma Physics - Espoo, Finland, 1 - 5 July 2013

05/07/2012: Laboratory observation of the birth of a collisionless shock of relevance to supernova remnants, 39th EPS Conference on Plasma Physics – Stockholm, Sweden, 2 - 6 July 2012

17/11/2011: Biological cell irradiation at ultrahigh dose rate employing laser driven protons, Light at Extreme Intensities 2011 – Szeged, Hungary, 14–18 November 2011

30/06/2004: Energy distribution of Cu ions generated by excimer laser ablation, XVII AIV Congress – Venezia, Italy, 28 June – 2 July 2004

SEMINARS

29/11/2018: Extreme Light Infrastructure for Nuclear Physics in Romania, University of Salento, Lecce, Italy, 29 Nov 2018

24/09/2018: Laser-driven ion acceleration and limiting factors, ELI-NP – Magurele (Bucharest), Romania, 24 Sept 2018

20/09/2017: Laser driven ion acceleration and its applications, ELI Beamline – Dolní Břežany (Prague), Czech Republic, 20 Sept 2017

08/02/2017: Laser driven ion acceleration and its applications, ELI-NP – Magurele (Bucharest), Romania, 08 Feb 2017

25/03/2013: Laser driven acceleration and Laboratory Astrophysics, Università del Salento – Lecce, Italy, 25 March 2013

Date 17/02/2021

Domenico DORIA

LIST OF PUBLICATIONS

MAIN RESEARCH PAPERS

This list contains the papers published in peer-reviewed journals, containing original results.

96. D. Doria M. O. Cernaianu, P. Ghenuche, D. Stutman, K. A. Tanaka, C. Ticos and C. A. Ur, Overview of ELI-NP status and laser commissioning experiments with 1 PW and 10PW class-lasers, *Journal of Instrumentation*, JINST 15 (09) C09053 (2020).
95. V Scuderi, G Milluzzo, D Doria, A Alejo, AG Amico, N Booth, G Cuttone, JS Green, S Kar, G Korn, G Larosa, R Leanza, P Martin, P McKenna, H Padda, G Petringa, J Pipek, L Romagnani, F Romano, A Russo, F Schillaci, GAP Cirrone, D Margarone, M Borghesi, TOF diagnosis of laser accelerated, high-energy protons, *Nuclear Instruments and Methods in Physics Research Section A*, 978, 164364 (2020)
93. G Milluzzo, H Ahmed, L Romagnani, D Doria, P Chaudhary, C Maiorino, A McIlvenny, A McMurray, K Polin, Y Katzir, R Pattathil, P McKenna, K Prise, M Borghesi, Dosimetry of laser-accelerated carbon ions for cell irradiation at ultra-high dose rate, *Journal of Physics: Conference Series*, 1596 (1) 012038 (2020)
92. R Mirfayzi, H Ahmed, D Doria, A Alejo, S Ansell, RJ Clarke, B Gonzalez-Izquierdo, P Hadjisolomou, R Heathcote, T Hodge, P Martin, D Raspino, E Schooneveld, P McKenna, NJ Rhodes, D Neely, M Borghesi, S Kar, A miniature thermal neutron source using high power lasers, *Applied Physics Letters* 116 (17), 174102 (2020)
91. A McIlvenny, H Ahmed, C Scullion, D Doria, L Romagnani, P Martin, K Naughton, A Sgattoni, DR Symes, A Macchi, P McKenna, M Zepf, S Kar, M Borghesi, Characteristics of ion beams generated in the interaction of ultra-short laser pulses with ultra-thin foils, *Plasma Physics and Controlled Fusion* 62 (5), 054001 (2020)
90. KA Tanaka, KM Spohr, DL Balabanski, S Balascuta, L Capponi, MO Cernaianu, M Cuciuc, A Cucoanes, I Dancus, A Dhal, B Diaconescu, D

- Doria, P Ghenuche, DG Ghita, S Kisyov, V Nastasa, JF Ong, F Rotaru, D Sangwan, P-A Söderström, D Stutman, G Suliman, O Tesileanu, L Tudor, N Tsoneva, CA Ur, D Ursescu, NV Zamfir, Current status and highlights of the ELI-NP research program, *Matter and Radiation at Extremes* 5 (2), 024402 (2020)
89. T. Asavei, M. Bobeica, V. Nastasa, G. Manda, F. Naftanaila, O. Bratu, D. Mischianu; M. O. Cernaianu, P. Ghenuche, D. Savu, D. Stutman, K. A Tanaka, M. Radu, D. Doria, P. R. Vasos, Laser-driven radiation: Biomarkers for molecular imaging of high dose-rate effects, *Medical physics* 46 (10) e726-e734 (2019)
 88. Polin, K; Doria, D; Romagnani, L; Chaudhary, P; Cirrone, GAP; Maiorino, C; Milluzzo, G; Petringa, G; Romano, F; Schettino, G, Irradiation and dosimetry arrangement for a radiobiological experiment employing laser-accelerated protons, *JINST* 14 (10) C10015 (2019)
 87. G. Milluzzo, V. Scuderi, A. Alejo, A. G. Amico, N. Booth, M. Borghesi, G. A. P. Cirrone, G. Cuttone, D. Doria, J. Green, S. Kar, G. Korn, G. Larosa, R. Leanza, D. Margarone, P. Martin, P. McKenna, G. Petringa, J. Pipek, L. Romagnani, F. Romano, A. Russo, and F. Schillaci, A new energy spectrum reconstruction method for time-of-flight diagnostics of high-energy laser-driven protons, *Rev. Sci. Instrum.* 90, 083303 (2019)
 86. F Hanton, P Chaudhary, D Doria, D Gwynne, C Maiorino, C Scullion, H Ahmed, T Marshall, K Naughton, L Romagnani, S Kar, G Schettino, P McKenna, S Botchway, DR Symes, PP Rajeev, KM Prise, M Borghesi, DNA DSB Repair Dynamics following Irradiation with Laser-Driven Protons at Ultra-High Dose Rates, *Scientific Reports* 9, 4471 (2019)
 85. L Romagnani, APL Robinson, RJ Clarke, D Doria, L Lancia, W Nazarov, MM Notley, A Pipahl, K Quinn, B Ramakrishna, PA Wilson, J Fuchs, O Willi, M. Borghesi, Dynamics of the Electromagnetic Fields Induced by Fast Electron Propagation in Near-Solid-Density Media, *Phys. Rev. Lett.* 122 (2) 025001 (2019)
 84. A. McIlvenny, D. Doria, L. Romagnani, H. Ahmed, P. Martin, S.D.R. Williamson, E.J. Ditter, O. Ettliger, G.S. Hicks, P. McKenna, Z. Najmudin, D. Neely, S. Kar and M. Borghesi, Absolute calibration of

microchannel plate detector for carbon ions up to 250 MeV, JINST 14 C04002 (2019)

83. K.M. Spohr, D. Doria and B.S. Meyer, Theoretical Discourse on Producing High Temporal Yields of Nuclear Excitations in Cosmogenic ^{26}Al with a PW Laser System: The Pathway to an Astrophysical Earthbound Laboratory, *Galaxies* 7(1), 4 (2019)
82. A Marocchino, A Ravasio, A Levy, L Lancia, Y Fukuda, S Jinno, S Atzeni, D Doria, C Prigent, E Lamour, D Vernhet, M Borghesi, L Romagnani, Transition from nonlocal electron transport to radiative regime in an expanding blast wave, *Applied Physics Letters* 112 (26), 264104 (2018)
81. JR Warwick, A Alejo, T Dzelzainis, W Schumaker, D Doria, L Romagnani, K Poder, JM Cole, M Yeung, K Krushelnick, SPD Mangles, Z Najmudin, GM Samarin, D Symes, AGR Thomas, M Borghesi, G Sarri, General features of experiments on the dynamics of laser-driven electron-positron beams, *NIM-A* 909, 95-101 (2018)
80. Mark Eric Dieckmann, Quentin Moreno, Domenico Doria, Lorenzo Romagnani, Gianluca Sarri, Doris Folini, Rolf Walder, Antoinette Bret, Emmanuel d'Humieres, Marco Borghesi, Expansion of a radially symmetric blast shell into a uniformly magnetized plasma, *Physics of Plasmas* 25 (5) 052108 (2018)
79. Jonathan Warwick, Tom Dzelzainis, Mark Eric Dieckmann, William Schumaker, Domenico Doria, Lorenzo Romagnani, Kristjan Poder, JM Cole, Aaron Alejo, Mark Yeung, K Krushelnick, SPD Mangles, Zulfikar Najmudin, Brian Reville, GM Samarin, DD Symes, AGR Thomas, Marco Borghesi, Gianluca Sarri, Experimental observation of a current-driven instability in a neutral electron-positron beam, *Phys. Rev. Lett.*, **119** (18) 185002 (2017)
78. Mark Eric Dieckmann, Domenico Doria, Gianluca Sarri, Lorenzo Romagnani, Hamad Ahmed, Doris Folini, Rolf Walder, Antoine Bret, Marco Borghesi, Electrostatic shock waves in the laboratory and astrophysics: similarities and differences, *PPCF*, **60** (1) 014014 (2017)
77. ER Tubman, RHH Scott, Hugo W Doyle, J Meinecke, H Ahmed, RAB Alraddadi, Riccardo Bolis, Joseph E Cross, R Crowston, D Doria, D

- Lamb, B Reville, APL Robinson, P Tzeferacos, M Borghesi, G Gregori, NC Woolsey, Time evolution and asymmetry of a laser produced blast wave, *PoP*, **24** (10) 103124 (2017)
76. Mark Eric Dieckmann, Domenico Doria, Hamad Ahmed, Lorenzo Romagnani, Gianluca Sarri, Doris Folini, Rolf Walder, Antoine Bret, Marco Borghesi, Expansion of a radial plasma blast shell into an ambient plasma, *PoP* **24** (9), 094501 (2017)
75. C Scullion, D Doria, L Romagnani, A Sgattoni, K Naughton, DR Symes, P McKenna, A Macchi, M Zepf, S Kar, M Borghesi, Polarization dependence of bulk ion acceleration from ultrathin foils irradiated by high-intensity ultrashort laser pulses, *PHYSICAL REVIEW LETTERS* **119** (5) 054801 (2017)
74. H Ahmed, S Kar, G Cantono, D Doria, AL Giesecke, D Gwynne, CLS Lewis, A Macchi, G Nersisyan, K Naughton, O Willi, M Borghesi, Optimisation of laser driven proton beams by an innovative target scheme, *JINST*, **12** (6), C06025 (2017)
73. V. Scuderi, G. Milluzzo, A. Alejo, A.G. Amico, N. Booth, G.A.P. Cirrone, D. Doria, J. Green, S. Kar, G. Larosa, R. Leanza, D. Margarone, P. McKenna, H. Padda, G. Petringa, J. Pipek, L. Romagnani, F. Romano, F. Schillaci, M. Borghesi, G. Cuttone and G. Korn, Time of Flight based diagnostics for high energy laser driven ion beams, *JINST*, **12** (3), C03086 (2017)
72. L. Manti, F.M. Perozziello, M. Borghesi, G. Candiano, P. Chaudhary, G.A.P. Cirrone, D. Doria, D. Gwynne, R. Leanza, K. M. Prise, L. Romagnani, F. Romano, V. Scuderi and A. Tramontana, The radiobiology of laser-driven particle beams: focus on sub-lethal responses of normal human cells, *JINST*, **12** (3), C03084 (2017)
71. Milluzzo, G, Scuderi, V, Amico, A G, Borghesi, M, Cirrone, G A P, Cuttone, G, Napoli, M D, Doria, D, Dostal, J, Larosa, G, Leanza, R, Margarone, D, Petringa, G, Pipek, J, Romagnani, L, Romano, F, Schillaci, F, Velyhan, A, Laser-accelerated ion beam diagnostics with TOF detectors for the ELIMED beam line, *JINST*, **12** (2), C02025 (2017)
70. Ahmed, H, Kar, S, Giesecke, AL, Doria, D, Nersisyan, G, Willi, O,

- Lewis, CLS & Borghesi, M, Proton probing of laser-driven EM pulses travelling in helical coils, *High Power Laser Science and Engineering*, **5**, e4 (2017)
69. H. Ahmed, D. Doria, M. E. Dieckmann, G. Sarri, L. Romagnani, A. Bret, M. Cerchez, A. L. Giesecke, E. Ianni, S. Kar, M. Notley, R. Prasad, K. Quinn, O. Willi, and M. Borghesi, Experimental observation of thin-shell instability in a collision-less plasma, *THE ASTROPHYSICAL JOURNAL, LETTER* **834** 2 (2017)
 68. Sarri, G, Warwick, J, Schumaker, W, Poder, K, Cole, J, Doria D., Dzelzainis, T, Krushelnick, K, Kuschel, S, Mangles, SPD, Najmudin, Z, Romagnani, L, Samarin, GM, Symes, D, Thomas, AGR, Yeung, M, Zepf, M, Spectral and spatial characterisation of laser-driven positron beams. *PLASMA PHYSICS AND CONTROLLED FUSION*, **59** 1 (2017)
 67. C. Scullion, D. Doria, L. Romagnani, H. Ahmed, A. Alejo, O.C. Ettliger, R.J. Gray, J. Green, G.S. Hicks, D. Jung, K. Naughton, H. Padda, K. Poder, G.G. Scott, D.R. Symes, S. Kar, P. McKenna, Z. Najmudin, D. Neely, M. Zepf and M. Borghesi, Angularly resolved characterization of ion beams from laser-ultrathin foil interactions, *JINST*, **11**, C09020 (2016)
 66. Alejo, A, Gwynne, D, Doria D., Ahmed, H, Carroll, DC, Clarke, RJ, Neely, D, Scott, GG, Borghesi, M, Kar, S, Recent developments in the Thomson Parabola Spectrometer diagnostic for laser-driven multi-species ion sources. *JINST*, **11**, C10005 (2016)
 65. Alejo, A, Green, A, Ahmed, H, Robinson, APL, Cerchez, M, Clarke, R, Doria D., Dorkings, S, Fernandez, J, McKenna, P, Mirfayzi, SR, Naughton, K, Neely, D, Norreys, P, Peth, C, Powell, H, Ruiz, JA, Swain, J, Willi, O, Borghesi, M, Kar, S, Numerical study of neutron beam divergence in a beam-fusion scenario employing laser driven ions. *NIM A*, **829**, 176 (2016)
 64. M. Dieckmann, G. Sarri, D. Doria, A. Ynnerman, and M. Borghesi; Particle-in-cell simulation study of a lower-hybrid shock, *PoP*, **23**, 062111 (2016)

63. A. Smyth, G. Sarri, M. Vranic, Y. Amano, D. Doria, E. Guillaume, H. Habara, R. Heathcote, G. Hicks, Z. Najmudin, H. Nakamura, P. Norreys, S. Kar, L. O. Silva, K. A. Tanaka, J. F. Vieira, M. Borghesi; Magnetic Field Generation during Intense Laser Channelling in Underdense Plasma, *PoP*, **23**, 063121 (2016);
62. H. Ahmed, S. Kar, G. Cantonno, G. Nersisyan, S. Brauckmann, D. Doria, D. Gwynne, A. Macchi, K. Naughton, O. Willi, C.L.S. Lewis, M. Borghesi; Investigations of ultra-fast charge dynamics in laser-irradiated targets by a self proton probing technique, *NIM A*, **829**, 172 (2016)
61. K.F. Kakolee, M. Borghesi, M. Zepf, S. Kar, D. Doria, B. Ramakrishna, K. Quinn, G. Sarri, J. Osterholz, M. Cerchez, O. Willi, X. Yuan, P. McKenna; Scaling of ion spectral peaks in the hybrid RPA-TNSA region, *The Korean Physical Society*, **78** 6, 768 (2016)
60. Kar, S.; Green, A.; Ahmed, H.; Alejo, A.; Robinson, A.; Cerchez, M.; Clarke, R.; Doria, D.; Dorkings, S.; Fernandez, J.; Mirfayzi, S.; McKenna, P.; Naughton, K.; Neely, D.; Norreys, P.; Peth, C.; Powell, H.; Ruiz, J.; Swain, J.; Willi, O.; Borghesi, M.; Beamed neutron emission driven by laser accelerated light ions, *NJP*, **18**, 5, 053002 (2016)
59. Alejo, A, Kar, S, Tebartz, A, Ahmed, H, Astbury, S, Carroll, DC, Ding, J, Doria D., Higginson, A, McKenna, P, Neumann, N, Scott, GG, Wagner, F, Roth, M, Borghesi, M, High resolution Thomson Parabola Spectrometer for full spectral capture of multi-species ion beams. *REVIEW OF SCIENTIFIC INSTRUMENTS*, **87**, 8, 083304 (2016)
58. Doria, D.; Kar, S.; Ahmed, H.; Alejo, A.; Fernandez, J.; Cerchez, M.; Gray, R. J.; Hanton, F.; MacLellan, D. A.; McKenna, P.; Najmudin, Z.; Neely, D.; Romagnani, L.; Ruiz, J. A.; Sarri, G.; Scullion, C.; Streeter, M.; Swantusch, M.; Willi, O.; Zepf, M.; Borghesi, M.; Calibration of BAS-TR image plate response to high energy (3-300 MeV) carbon ions, *REVIEW OF SCIENTIFIC INSTRUMENTS* **86**, 12, 123302 (2015)

57. Kanasaki, M.; Jinno, S.; Sakaki, H.; Faenov, A. Y.; Pikuz, T. A.; Nishiuchi, M.; Kiriyama, H.; Kando, M.; Sugiyama, A.; Kondo, K.; Matsui, R.; Kishimoto, Y.; Morishima, K.; Watanabe, Y.; Scullion, C.; Smyth, A. G.; Alejo, A.; Doria, D.; Kar, S.; Borghesi, M.; Oda, K.; Yamauchi, T.; Fukuda, Y.; Observation of the inhomogeneous spatial distribution of MeV ions accelerated by the hydrodynamic ambipolar expansion of clusters, *RADIATION MEASUREMENTS* **83**, 12 (2015)
56. Booth, N.; Robinson, A. P. L.; Hakel, P.; Clarke, R. J.; Dance, R. J.; Doria, D.; Gizzi, L. A.; Gregori, G.; Koester, P.; Labate, L.; Levato, T.; Li, B.; Makita, M.; Mancini, R. C.; Pasley, J.; Rajeev, P. P.; Riley, D.; Wagenaars, E.; Waugh, J. N.; Woolsey, N. C.; Laboratory measurements of resistivity in warm dense plasmas relevant to the microphysics of brown dwarfs, *NATURE COMMUNICATIONS* **6**:8742 (2015)
55. Dieckmann, M. E.; Ahmed, H.; Doria, D.; Sarri, G.; Walder, R.; Folini, D.; Bret, A.; Ynnerman, A.; Borghesi, M.; Thin-shell instability in collisionless plasma, *PHYSICAL REVIEW E* **92**, 031101(R) (2015)
54. Dieckmann, M. E.; Bock, A.; Ahmed, H.; Doria, D.; Sarri, G.; Ynnerman, A.; Borghesi, M.; Shocks in unmagnetized plasma with a shear flow: Stability and magnetic field generation, *PoP* **22** 072104, (2015)
53. Sarri, G.; Poder, K.; Cole, J. M.; Schumaker, W.; Di Piazza, A.; Reville, B.; Dzelzainis, T.; Doria, D.; Gizzi, L. A.; Grittani, G.; Kar, S.; Keitel, C. H.; Krushelnick, K.; Kuschel, S.; Mangles, S. P. D.; Najmudin, Z.; Shukla, N.; Silva, L. O.; Symes, D.; Thomas, A. G. R.; Vargas, M.; Vieira, J.; Zepf, M.; Generation of neutral and high-density electron-positron pair plasmas in the laboratory, *NATURE COMMUNICATIONS* **6**:6747, (2015)
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