

VANESSA PHUNG LING JEN

Address: Nr. 30, Strada Reactorului, 077125 Măgurele, Jud-Ilfov, Romania

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LinkedIn



EMPLOYMENT HISTORY

Post-doctoral Research Assistant

Feb. 2023 - Present

Laser Gamma Experiments Department, Extreme Light Infrastructure – Nuclear Physics (ELI-NP)

Măgurele, Romania

- **Commissioning:** Played a key role in the experimental campaigns at 1 PW (E7) and 10 PW (E6) target areas, focusing on high-power laser-target interaction and electron beam generations and gas/plasma density diagnostics.
- **Facility Development:** Designed and implemented interchangeable neutral gas density and plasma diagnostics systems; strategic proposals for real-time laser characterisation and far-field monitoring, target development, characterisation and data post-processing code
- **Beam diagnostics:** Strategic implementation of non-destructive, online-beam charge measurement protocols using Turbo-ICT systems; engineered noise-reduction shielding and synchronisation to ensure data integrity against Electromagnetic Pulse (EMP) interference in PW-class facility.
- **User Coordination:** Coordinated collaborative experimental campaigns, providing technical oversight and troubleshooting with the users to ensure maximum experimental uptime and data quality.

Research Assistant / Ph.D. Student

2014 - Feb. 2022

Laser Plasma Acceleration Laboratory, Gwangju Institute of Science and Technology (GIST)

Gwangju, Republic of Korea

- **Lab Infrastructure and Management:** Managed the operation of 20 TW laser system and designed safety protocols for high-pressure vacuum systems and gas line.

Teaching Assistant

Multiple Appointments 2012-2015

GIST College, Gwangju Institute of Science and Technology

Gwangju, Republic of Korea

- **Graduate Experimental Physics:** Mar 2015 - Jun 2015: Demonstrator in graduate-level experimental physics courses
- **Undergraduate Physics Laboratories:** Mar 2013 - Jun 2013: General Physics Laboratory I
- **Undergraduate Physics Laboratories:** Sep 2012 - Dec 2012: General Physics Laboratory II

Research Assistant (Project)

2009 - 2012

High Energy Density Physics Laboratory, University of Malaya

Kuala Lumpur, Malaysia

EDUCATION

Ph.D. in Physics

2014 – Feb. 2022

Gwangju Institute of Science and Technology, Gwangju, South Korea

M.S. in Physics

2012 – 2014

Gwangju Institute of Science and Technology, Gwangju, South Korea

B.Sc. (Hons) Applied Physics

2005 – 2009

University of Malaya, Kuala Lumpur, Malaysia

RESEARCH EXPERIENCES & EXPERTISE

Turbo-ICT and Beam Current Monitor-Radio Frequency (BCM-RF) system characterisation

- **Signal Integration:** Optimised Turbo-ICT and BCM-RF systems; implemented noise-reduction protocols and synchronisation protocols to mitigate EMP interference in PW-class experimental environments.

Plasma Diagnostics

- **Pump-probe technique:** Time-space resolved plasma diagnostics to investigate laser prepulse effects on thin solid foils.
- **Femto-second-Optical Interferometer:** Mach-Zehnder Interferometer, Nomarski Interferometer and analysis code development

GIST-LPALab 1 TW/35 fs and 20 TW Laser Operation and Maintenance

- **Laser System Development & Pulse Characterisation:** Synchronisation of multi-pass amplification (MPA) systems and performed laser pulse characterisation, improvement of the temporal contrast.
- **THz Wave Generation:** Engineered 1 TW laser configurations to facilitate the generation of intense THz waves via two-color laser filamentation.

Numerical simulation

- **EPOCH Particle-in-Cell (PIC):** Utilised simulations for beam dynamics studies and laser-plasma interaction modeling.

High voltage techniques in triggering system

- **Pulsed power & Hardware:** Engineered fast high-current generator trigger systems for wire X-pinch soft X-ray sources generation and its application in high-resolution plasma imaging.

RESEARCH PROJECTS

- | | |
|--|---------------------------------------|
| LWFA-driven Gamma Source (LGS, ELI-RO/RDI/2024-021)
<i>Team Member</i> <ul style="list-style-type: none">○ Principal Investigator: Dr. Petru Ghenuche (ELI-NP/IFIN-HH) | ELI-NP, Romania
2024 – 2026 |
| Dose Rate Measurement (DRAM, ELI-RO/RDI/2024-040)
<i>Team Member</i> <ul style="list-style-type: none">○ Principal Investigator: Dr. Ovidiu Tesileanu (ELI-NP/IFIN-HH) | ELI-NP, Romania
2024 – 2025 |
| Development of fast high-current generator (X-pinch) for soft x-ray source
<i>Project Research Assistant</i> <ul style="list-style-type: none">○ Principal Investigator: Professor Kwek Kuan Hiang (University of Malaya) | Kuala Lumpur, Malaysia
2009 – 2012 |

SKILLS

Communication: English, Chinese, Malay, Cantonese, Korean

Tools and Languages: Python, MATLAB, \LaTeX , Particle-in-cell simulation (EPOCH), Computational Fluid Dynamics (CFD) ANSYS-FLUENT, Linux system

Technical: SolidWorks, Basic electronics, High-voltage systems, Lathe machining, High-vacuum & High-pressure gas systems

Other: First-aider, Amateur archer

AWARDS AND ACHIEVEMENTS

- **Best Poster Award** | 30th Annual KAPRA & KPS/DPP Conference, South Korea 2021
- **Best Poster Award** | Korean Physical Society Spring Meeting, South Korea 2014
- **Korean Government Scholarship** | Full Ph.D. Scholarship (KGSP) 2014 – 2017
- **Certified Radiation Worker** | Korea Radiation Agency 2021
- **Laser Safety Certification** | Annual Certification, GIST Laser Safety 2016 – 2021

PUBLICATIONS

Journal Articles

- [1] Giubega, G., Nakamiya, Y., D'Souza, F., **Phung, V. L. J.**, Slabu, I., Iancu, V., Neagu, L., Ong, J. F., Dobre, M., Balaceanu, A., Vancea, C., Tudor, L., Cojocaru, G., Norbaev, S., Naziru, A., Vasescu, L., Toma, A., Dumitru, A., Berceanu, A., Rosu, M., Iancu, V., Turturica, G., Matei, C., Baruta, S., Tozar, T., Marin, C., Cucoanes, A., Florea, N., Dancus, I., Tesileanu, O., "Preliminary results on nuclear isomer production via laser-driven bremsstrahlung irradiation at ELI-NP-1PW", Nucl. Phys. A **1062**, 123157 (2025) DOI: 10.1016/j.nuclphysa.2025.123157.

- [2] Kirita, Y., Kodama, A., Homma, K., Chiochiu, C., Cuciuc, M., Giubega, G., Hasada, T., Hashida, M., Masuno, S., Nakamiya, Y., Neagu, L., **Phung, V. L. J.**, Rosu, M.-M., Sakabe, S., Tazlauanu, S. V., Tesileanu, O., Tokita, S., "Search for sub-eV axion-like particles in a quasi-parallel stimulated resonant photon-photon collider with coronagraphy", *J. High Energy Phys.* **2025**, 138 (2025) DOI: 10.1007/JHEP06(2025)138.
- [3] Bang, W., Cho, B. I., Cho, M. H., Cho, M. S., Chung, M., Hur, M. S., Kang, G., Kang, K., Kang, T., Kim, C., Kim, H. N., Kim, J., Kim, K. B., Kim, K. N., Kim, M., Kim, M. S., Kumar, M., Lee, H., Lee, H. W., Lee, K., Nam, I., Park, S. H., **Phung, V. L. J.**, Ryu, W. J., Shin, S. Y., Song, H. S., Song, J., Won, J., Suk, H., "Review of laser-plasma physics research and applications in Korea", *J. Korean Phys. Soc.* **80**, 698–716 (2022) DOI: 10.1007/s40042-021-00391-w.
- [4] Kim, J., **Phung, V. L. J.**, Roh, K., Kim, M., Kang, K., Suk, H., "Development of a density-tapered capillary gas cell for laser wakefield acceleration", *Rev. Sci. Instrum.* **92**, 023511 (2021) DOI: 10.1063/5.0009632.
- [5] **Phung, V. L. J.**, Kang, K., Jeon, S., Kim, J., Roh, K., Suk, H., "Development of a 1 TW/ 35 fs Ti:sapphire laser amplifier and generation of intense THz waves using two-color laser filamentation", *Photonics* **8**, 316 (2021) DOI: 10.3390/photonics8080316.
- [6] Kim, J., **Phung, V. L. J.**, Roh, K., Suk, H., "Diagnostics of the down-ramp gas and plasma density profiles in a gas jet and a capillary gas cell", *J. Instrum.* **14**, C12015 (2019) DOI: 10.1088/1748-0221/14/12/c12015.
- [7] **Phung, V. L. J.**, Kim, M., Kim, J., Uhm, H. S., Suk, H., "Characteristics of the preplasma formation using an uncompressed picosecond-long laser pulse with a large spot size on Al and mylar targets", *Curr. Appl. Phys.* **19**, 829–834 (2019) DOI: 10.1016/j.cap.2019.04.006.
- [8] Kim, M., Kim, J., **Phung, V. L. J.**, Suk, H., "Contrast ratio enhancement by spectral matching of a seed laser pulse and ASE in a Ti:sapphire laser system", *Opt. Express* **25**, 14158–14163 (2017) DOI: 10.1364/OE.25.014158.

Proceedings

- [1] Tesileanu, O., Giubega, G., Iancu, V., Nakamiya, Y., **Phung, V. L. J.**, Balaceanu, A., Vancea, C., Tudor, L., Rosu, M., Slabu, I., Cojocaru, G., Cernaianu, M., D'Souza, F., Iancu, V., Baruta, S., Berceanu, A., Bey, A., Chiochiu, C., Cucoanes, A. S., Dobre, M., Dreghici, D., Dumitru, A., Florea, N., Gugiu, M., Matei, C., Merisanu, M., Mitu, I., Naziru, A., Neagu, L., Norbaev, S., Ong, J. F., Radu, A., Risca, M., Rotaru, F., Tazlauanu, S., Tofan, D., Toma, A., Tozar, T., Turturica, G. V., Vasescu, L., Xu, Y., "Preliminary studies on laser-driven production of nuclear isomeric states for fundamental and applied research at ELI-NP", in *Research Using Extreme Light Infrastructures: New Frontiers with Petawatt-Level Lasers VI*, Vol. 13535, edited by B. Rus, D. Margarone, and V. Malka (International Society for Optics and Photonics, 2025), p. 1353507, DOI: 10.1117/12.3062176.
- [2] Kim, J., **Phung, V. L. J.**, Jin, M., Kim, M.-S., Suk, H., "Development of the gas-cell-based plasma source for laser-wakefield electron acceleration", English, in 2019 INTERNATIONAL VACUUM ELECTRONICS CONFERENCE (IVEC), IEEE International Vacuum Electronics Conference IVEC, International Vacuum Electronics Conference (IVEC), Busan, SOUTH KOREA, APR 28-MAY 01, 2019 (2019), DOI: 10.1109/ivec.2019.8745139.

CONFERENCES AND SUMMER SCHOOLS/WORKSHOPS

Invited Oral Presentations

1. **V. L. J. Phung** et al. "Nuclear Excitation Experiments with Laser-Plasma Accelerators at 1 PW/E7: Diagnostics and Preliminary Results", International Plasma and Fusion Conference (i-FPC 2025), Daejeon, South Korea (9–13 June 2025)
2. **V. L. J. Phung** et al. "Advancements in exploring in laser-driven acceleration for fundamental experiments and applications", 8th Asia-Pacific Conference on Plasma Physics (AAPPS-DPP 2024), Melaka, Malaysia (3–8 November 2024)
3. **V. L. J. Phung** et al. "Implementation of the beam diagnostics bench for laser-plasma acceleration experiments", Malaysia National Physics Conference (PERFIK) 2024, Melaka, Malaysia (5–7 November 2024)

Contributed Oral Presentations

- o **V. L. J. Phung** et al. "Challenges in beam diagnostics setup", Intensive School Laser, Plasma & Fusion (LaPlaFu 2024), Rethymno, Greece (2–3 September 2024)

- **V. L. J. Phung** et al. “THz-wave generation using 1 TW Ti:sapphire laser configuration”, KAPRA & KPS/DPP Virtual Conference, Republic of Korea (1–2 July 2021)
- **V. L. J. Phung** et al. “Characterisation of the preplasma produced by interaction of a laser pulse and a thin foil target”, Korean Physical Society Spring Meeting, Daejeon, Republic of Korea (25-27 April 2018)
- **V. L. J. Phung** et al. “Diagnostics of preformed plasmas in laser and thin foil interactions”, 2nd Laser Particle Accelerator Workshop, ETRI–Daejeon, Republic of Korea (30-31 November 2017)

Poster Presentations

- **V. L. J. Phung** et al. “Implementation of the optical diagnostic techniques in target sources characterisation for the laser wakefield acceleration-based experiment at ELI-NP”, 50th EPS Conference on Plasma Physics, Salamanca, Spain (8-12 July 2024)
- **V. L. J. Phung** et al. “Characterisation of Turbo-ICT: calibration using optical pulse signals”, 30th Euroschool on Exotic Beams, Sinaia, Romania (27 August - 2 September 2023)
- **V. L. J. Phung** et al. “Investigation of the preplasma characteristics produced by interaction of a laser pulse and a thin foil/film target”, 60th American Physical Society Annual Meeting (APS-DPP), Portland, Oregon, USA (5-9 November 2018)
- Donggyu Jang, **Vanessa Ling Jen Phung**, and Hyyong Suk. “Upgrade of the discharge system to generate a hydrogen-discharged capillary plasma waveguide for laser-plasma acceleration”, KAPRA & KPS/DPP Conference, Cheorwon, Republic of Korea (30 June - 1 July 2016)
- **V. L. J. Phung** et al. “Characterisation of a gas cell for laser wakefield acceleration studies”, Korean Physical Society Fall Meeting, Gwangju, Republic of Korea (22-24 October 2014)

Summer Schools & Workshops Attended

1. Intensive School Laser, Plasma & Fusion (LaPlaFu 2024), Rethymno, Greece (2-5 September 2024)
2. 30th Euroschool on Exotic Beams 2023, Sinaia, Romania (27 August - 2 September 2023)
STAMPLASS 2023 Workshop: Standardization of metrology procedures for lasers and secondary sources, ELI-NP Training and Conference Center, Magurele, Romania (21-23 March 2023)
3. 7th Asian Summer School and Symposium on Laser-Plasma Acceleration and Radiation, Shanghai Jiao Tong University, Shanghai, China (17-23 July 2016)
4. Korea Particle Accelerator School (KoPAS), Institute of Basic Science (IBS), Daejeon, Republic of Korea (28-31 July 2015)
5. 2010 Summer School On Lasers and Laser Applications (SSOLLA), Asian Laser Center-APRI, Gwangju, Republic of Korea (1-5 August 2010)

REFERENCES

Prof. Hyyong Suk

Dean, College of Natural Sciences
Professor, Department of Physics and Photon Science
Gwangju Institute of Science and Technology
Republic of Korea
Email: hysuk@gist.ac.kr

Assoc. Prof. Inhyuk Nam

Associate Professor
Department of Physics
Ulsan National Institute of Science and Technology
Republic of Korea
Email: ihnam@unist.ac.kr

Dr. Minseok Kim

Staff Scientist, XFEL Science Team (Beamline Division)
Pohang Accelerator Laboratory (PAL)
Republic of Korea
Email: kms83@postech.ac.kr

The three most important achievements in the topics of the open vacancy are narrated as follow:

1. Design and implementation of an inter-changeable gas density and plasma density measurement station using PHASICS *Quadri-Wave Lateral Shearing Interferometer* (QWLSI) wavefront sensor to characterise gas target 1 PW(E7) and 10 PW (E6) experimental areas.
2. Implementation of an *in situ*, non-destructive electron charge measurement system for the Laser Wakefield Accelerations (LWFA) experiments.
3. Identification of the sources of noise and implementation of strategic noise mitigation that ensure the Integrated current transformer (ICT) beam charge diagnostics system remained operational under high-power laser-plasma interaction condition.

In the field of Laser-Wakefield Acceleration (LWFA), the precision characterisation of the plasma source is the primary determinant of quality beam generation. Achieving stable, high-brightness electron bunches requires a sophisticated synergy between target architecture and laser parameters. My expertise lies in the end-to-end management of this process—from target design and gas-density characterisation to the implementation of high-fidelity electron beam diagnostics.

During my research, I utilised both SolidWorks and ANSYS-Fluent in the development of the gas targets for the optimisation and design. Additionally, I am capable in handling electronic triggering systems, vacuum systems and gas-line layout essential for the successful implementation of targets in the laser wakefield acceleration experiments. These achievements were formally recognised and are published in *Rev. Sci. Instrum.* **92**, 6 (2021) and *J. Instrum.* **14** (12), C12015 (2019). Complementing this work, I performed comprehensive characterisation of the gas targets with various Interferometric techniques, including Mach-Zehnder and Nomarski interferometry using pump-probe configurations. My capabilities and skills in plasma diagnostics further elevated through the study of the preplasma formation on solid targets, such as aluminium and Mylar. This work was published in *Curr. Appl. Phys.* **19** (7), 829–834 (2019).

Upon joining the Laser – Gamma Experiment Department (LGED) at ELI-NP as a Post-doctoral Research Assistant, my prior expertise came in handy and facilitated a seamless integration into the experimental team. I rapidly transitioned into active experimental work and contributing to the commissioning of the 1 PW(E7) and 10 PW (E6) experimental areas. During this phase, several proposals that fits to the experimental areas were made in order to improve the facility experimental campaigns, ensuring maximum energy gain and beam stability during experimental campaigns, bridging the gap between theoretical gas-target modelling and successful experimental realisation. These commissioning achievement were published in *Nucl. Phys. A* **1062**, 123157 (2025).

Additionally, I took a lead role in the pre-experimental phase, performing the gas density measurement using the PHASICS *Quadri-Wave Lateral Shearing Interferometer* (QWLSI) wavefront sensor. The objective was to tailor gas targets with optimal gas elements such as pressure and gas species to produce precise plasma density, profiles, and longitudinal dimensions. This allowed us to meet the "optimum matching conditions" required for the specific laser focal spots and intensities. Consequently, the electron injection process is controllable — critical for generating stable, high-brightness electron bunches with minimised energy spread. As a result of this effort, we have now established an inter-changeable diagnostics enable for highly sensitive, high-resolution density mapping for both neutral gas and plasma density measurement across 1 PW (E7) and 10 PW (E6) areas.

During the experimental phase, I proposed and implemented a non-destructive beam charge measurement using an upgraded version known as Turbo-ICT (Integrated Current Transformer). This system features a frontend band-pass filter and amplifier (FEFA) compared to typical ICTs, providing better resonant signal filtering. I took charge of the integration and commissioning of the Turbo-ICT system within the experimental areas. My initial phase involved the characterisation of the system was done with a photodiode and an 800 nm, pulsed-laser, *Avesta*. In this configuration, the electron beam charge is "simulated" via laser-induced voltage pulses. The equivalent "charge" is controlled by employing different sets of neutral density (ND) filters to attenuate the laser intensity, allowing a controlled calibration of the detector response. Following this characterisation, my primary objective was to ensure the Turbo-ICT's operational reliability under harsh laser-plasma interaction conditions. These environments generate intense electromagnetic pulse (EMP) that typically render sensitive electronics unusable and might interfere with the data acquisition of the system. To address this issue, I conducted extensive validation tests across diverse experimental ranging from 100 TW to 10 PW. Through a series of iterative tests in the 1 PW and 10 PW target areas, I identified critical failure points in the system. I subsequently drafted and implemented a comprehensive noise-mitigation strategy that optimised the grounding and shielding of the detectors, both inside and outside the vacuum chambers, ensuring data integrity during high-power shots. This strategy was rigorously validated during an international user beamtime (PI: Dr. Calin Højbo) in July 2025 and subsequent internal campaigns at E7 in September 2025. The implementation of the new noise-mitigation setup significantly improved signal acquisition and data reliability, even under peak 10 PW operational conditions.

In conclusion, I view these achievements as a foundational catalyst for my next role as a *Scientific Researcher* (CS). I am eager to leverage my experimental capabilities to further advance the facility's mission at ELI-NP, developing next-generation, tailored diagnostics that push the boundaries of high-power laser-plasma research.

13.01.2026

VANESSA PHUNG LING JEN

MINIMAL STANDARDS APPLICABLE AT IFIN-HH
for being awarded the professional ranks of
First Stage Researcher (Research Scientist - CS) and
Recognised Researcher (3rd rank Research Scientist - CS III)

Approved in the meeting of IFIN-HH Scientific Council of 27.02.2025 (SC Decision No. 5/27.02.2025)

Minimal Standards (at IFIN-HH)

1) IFIN-HH shall establish threshold scores ($P_{\text{threshold}}$) according to the table below.

	First Stage Researcher (CS)	Recognised Researcher (CSIII)
$P_{\text{threshold}}$	0.50	1.50

2) During the evaluation of the candidate's scientific activity, the score P is determined in the following manner:

$P = P_1 + P_2$, where

P_1 : for articles where the candidate is an author, but not a first author or a corresponding author:

$$P_1 = \sum_i a_i / n_i^{\text{af}}$$

P_2 : for articles where the candidate is a first author or a corresponding author: $P_2 = \sum_i a_i$

a_i = is the absolute Article Influence score of the scientific journal where article i was published, according to its year of publication as per <http://www.eigenfactor.org/> for articles published until 2006 and Journal Citation Report (Web of Science) starting from 2007; if the publishing year cannot be not found in the database, the closest year shall be chosen.

n_i^{af} = is the actual number of authors of item i and is determined as follows:

n_i	if $n_i \leq 5$
$(n_i + 5)/2$	if $5 < n_i \leq 15$
$(n_i + 15)/3$	if $15 < n_i \leq 75$
$(n_i + 45)/4$	if $n_i > 75$

where n_i is typically the number of authors of item i . In the case of HEPP (High Energy Particle Physics) publications with a large number of authors, if the article is based on an internal note of the collaboration and the candidate is a co-author of this internal note, then n_i^{af} can be given by the number of authors in the internal note.

The capacity as first author or corresponding author shall be determined based on the mentions in the article. Articles where authors are indicated in the alphabetical order of their name and the candidate is a first author exclusively due to their name and the alphabetical order shall not be taken into account. In the case of HEPP publications with a large number of authors, if the article is based on an internal note whose approval for sending to publication was upheld by the author, then the author is considered first author.

Minimal Standards Self-Assessment Form:

Category of Articles	Position in the List of Papers	Score	Calculation Details
Articles in ISI Thomson Reuters ranked journals and in ISI Proceedings indexed volumes for which the candidate is not a first author or a corresponding author	1	a_i/n_i^{ef}	Journal of Fluorescence, 2011; 21(4):1421-9, AIS=0.506, no. of authors:6, ef no:5.33
	6	0.103	J. Instrum. 14 (12), C12015-C12015 (2019). ISSN:1748-0221 AIS: 0.412; No. of authors: 4, ef no.: 4
	4	0.091	Rev. Sci. Instrum. 92 (2), 6 (2021). ISSN: 0034-6748 AIS: 0.50; No. of authors: 6, ef no.: 5.5
	8	0.218	Opt. Express 25 (13), 14158-14163 (2017). ISSN:1094-4087 AIS: 0.872; No. of authors: 4, ef no.: 4
	3	0.0072	J. Korean Phys. Soc. 80, 698-716 (2022). ISSN: 0374-4884 AIS: 0.105 No. of authors: 29, ef no.: 14.66
	1	0.0251	Nuclear Physics A, 1062, (2025). ISSN: 0375-9474 AIS: 0.377 No. of authors: 30, ef no.: 15
	2	0.09	J. High Energy Phys. 138 (2025). ISSN: 1029-8479 AIS: 0.960 No. of authors: 17, ef no.: 10.67
	..	a_i	
Articles in ISI Thomson Reuters ranked journals and in ISI Proceedings indexed volumes for which the candidate is a first author or a corresponding author	5	0.444	Photonics 8 (8), 316 (2021). ISSN: 2304-6732 AIS: 0.444 No. of authors: 6
	7	0.360	Curr. Appl. Phys. 19 (7), 6 (2019). ISSN: 1567-1739 AIS: 0.360 No. of authors: 5
TOTAL		1.3382	

13.01.2026

VANESSA PHUNG LING JEN

APPENDIX: LIST OF PUBLICATION (h-index: 3)

1. Giubega, G., Nakamiya, Y., D'Souza, F., Phung, V. L. J., Slabu, I., Iancu, V., Neagu, L., Ong, J. F., Dobre, M., Balaceanu, A., Vancea, C., Tudor, L., Cojocaru, G., Norbaev, S., Naziru, A., Vasescu, L., Toma, A., Dumitru, A., Berceanu, A., Rosu, M., Iancu, V., Turturica, G., Matei, C., Baruta, S., Tozar, T., Marin, C., Cucoanes, A., Florea, N., Dancus, I., Tesileanu, O., "Preliminary results on nuclear isomer production via laser-driven bremsstrahlung irradiation at ELI-NP-1PW", *Nucl. Phys. A* 1062, 123157 (2025) DOI: 10.1016/j.nuclphysa.2025.123157.
2. Kirita, Y., Kodama, A., Homma, K., Chiochiu, C., Cuclic, M., Giubega, G., Hasada, T., Hashida, M., Masuno, S., Nakamiya, Y., Neagu, L., Phung, V. L. J., Rosu, M.-M., Sakabe, S., Tazlauanu, S. V., Tesileanu, O., Tokita, S., "Search for sub-eV axion-like particles in a quasi-parallel stimulated resonant photon-photon collider with coronagraphy", *J. High Energy Phys.* 2025, 138 (2025) DOI: 10.1007/JHEP06(2025)138.
3. Bang, W., Cho, B. I., Cho, M. H., Cho, M. S., Chung, M., Hur, M. S., Kang, G., Kang, K., Kang, T., Kim, C., Kim, H. N., Kim, J., Kim, K. B., Kim, K. N., Kim, M., Kim, M. S., Kumar, M., Lee, H., Lee, H. W., Lee, K., Nam, I., Park, S. H., Phung, V. L. J., Ryu, W. J., Shin, S. Y., Song, H. S., Song, J., Won, J., Suk, H., "Review of laser-plasma physics research and applications in Korea", *J. Korean Phys. Soc.* 80 (8), 698–716 (2022) DOI: 10.1007/s40042-021-00391-w.
4. Kim, J., Phung, V. L. J., Roh, K., Kim, M., Kang, K., Suk, H., "Development of a density-tapered capillary gas cell for laser wakefield acceleration", *Rev. Sci. Instrum.* 92(2), 023511 (2021) DOI: 10.1063/5.0009632.
5. Phung, V. L. J., Kang, K., Jeon, S., Kim, J., Roh, K., Suk, H., "Development of a 1 TW/ 35 fs Ti:sapphire laser amplifier and generation of intense THz waves using two-color laser filamentation", *Photonics* 8 (8), 316 (2021) DOI: 10.3390/photonics8080316.
6. Kim, J., Phung, V. L. J., Roh, K., Suk, H., "Diagnostics of the down-ramp gas and plasma density profiles in a gas jet and a capillary gas cell", *J. Instrum.* 14 (12), C12015 (2019) DOI: 10.1088/1748-0221/14/12/c12015.
7. Phung, V. L. J., Kim, M., Kim, J., Uhm, H. S., Suk, H., "Characteristics of the preplasma formation using an uncompressed picosecond-long laser pulse with a large spot size on Al and mylar targets", *Curr. Appl. Phys.* 19 (7), 829–834 (2019) DOI: 10.1016/j.cap.2019.04.006.
8. Kim, M., Kim, J., Phung, V. L. J., Suk, H., "Contrast ratio enhancement by spectral matching of a seed laser pulse and ASE in a Ti:sapphire laser system", *Opt. Express* 25 (13), 14158–14163 (2017) DOI: 10.1364/OE.25.014158.
9. Tesileanu, O., Giubega, G., Iancu, V., Nakamiya, Y., Phung, V. L. J., Balaceanu, A., Vancea, C., Tudor, L., Rosu, M., Slabu, I., Cojocaru, G., Cernaianu, M., D'Souza, F., Iancu, V., Baruta, S., Berceanu, A., Bey, A., Chiochiu, C., Cucoanes, A. S., Dobre, M., Dregheci, D., Dumitru, A., Florea, N., Guglu, M., Matei, C., Merisanu, M., Mitu, I., Naziru, A., Neagu, L., Norbaev, S., Ong, J. F., Radu, A., Risca, M., Rotaru, F., Tazlauanu, S., Tofan, D., Toma, A., Tozar, T., Turturica, G. V., Vasescu, L., Xu, Y., "Preliminary studies on laser-driven production of nuclear isomeric states for fundamental and applied research at ELI-NP", in *Research Using Extreme Light Infrastructures: New Frontiers with Petawatt-Level Lasers VI*, Vol. 13535, edited by B. Rus, D. Margarone, and V. Malka (International Society for Optics and Photonics, 2025), p. 1353507, DOI: 10.1117/12.3062176.
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