

# Publication List

## Staff: Accelerator Division VI

Harada, K., Yamamoto, N., Honda, T., Shimosaki, Y., Obina, T.

Conceptual Design of the Hybrid Ring  
*Kasokuki* **19**, 62 (2022).

Shimada, M., Sakai, H., Nakamura, N.

Report of ERL2022 Workshop  
*Kasokuki* **19**, 242 (2022).

Ishibashi, T., Honda, T.

Special issue particle accelerators and their future  
*Vac. Surf. Sci.* **65**, 554 (2022).

Lu, Y., Mitsuda, C., Takaki, H., Obina, T., Kobayashi, Y.  
 Precise pulsed magnetic field mapping using a compact pick-up probe for a pulsed sextupole magnet

*Rev. Sci. Instrum.* **93**, 123306 (2022).

Mitsuda, C., Takaki, H., Takai, R., Nogami, T., Uchiyama, T., Kobayashi, Y., Obina, T., Lu, Y., Yokoyama, A.

Suppression of eddy-current effects in beam injection using a pulsed sextupole magnet with a new ceramic chamber

*Phys. Rev. Accel. Beams.* **25**, 112401 (2022).

Sato, M., Fang, Z., Fukuda, M., Fukui, Y., Futatsukawa, K., Ikegami, K., Kobayashi, H., Kubota, C., Kurihara, T.,

Miura, T., Miyajima, T., Naito, F., Nanmo, K., Obina, T., Shibata, T., Sugimura, T., Takagi, A., Kumada, H.,

Matsumoto, Y., Tanaka, S., Ohba, T., Nagura, N.,

Toyoshima, T., Oguri, H.

Commissioning status of the iBNCT accelerator  
*Proc. LINAC2022, Liverpool, UK* **164** (2022).

Masuda, K., Akagi, T., Antoniazzi, L., Arranz, F., Bazin, N., Bellan, L., Bolzon, B., Brañas, B., Cara, P., Carin, Y., Castellanos, J., Chauvin, N., Chel, S., Cismondi, F.,

Comunian, M., De Franco, A., Duglue, D., Dzitko, H., Ebisawa, T., Facco, A., Fagotti, E., Gavela, D., Gex, D., Grespan, F., Hasegawa, K., Hirosewa, K., Hyun, J., Itagaki, T., Jimenez-Rey, D., Jokinen, A., Kasugai, A., Kondo, K., Kumagai, K., Kwon, S., Marchena, Á., Marroncle, J.,

Mizuno, A., Mollá, J., Moya, I., Méndez, P., Nomen, O., Oliver, C., Palmieri, A., Phillips, G., Pisent, A., Podadera, I., Regidor, D., Ros, A., Scantamburlo, F., Shimosaki, Y., Sugimoto, M., Villamayor, V., Weber, M., de la Morena, C.

Commissioning of IFMIF Prototype Accelerator towards CW operation

*Proc. LINAC2022, Liverpool, UK* **319** (2022).

Bajpai, R., Tomaru, T., Kimura, N., Ushiba, T., Yamamoto, K., Suzuki, T., Honda, T.

Vibration analysis of KAGRA cryostat at cryogenic temperature.

*Class. Quantum Grav.* **39**, 165004 (2022).

Gamelin, A., Foosang, W., Marchand, P., Nagaoka, R., Yamamoto, N.

Beam dynamics with a superconducting harmonic cavity for the SOLEIL Upgrade.

*Proc. IPAC2022, Bangkok, Thailand*, 2229 (2022).

Tanaka, O., Miyajima, T., Tanikawa, T.

Present status of the injector at the Compact ERL at KEK.

*Proc. IPAC2022, Bangkok, Thailand*, 2296 (2022).

Tanaka, O., Miyajima, T., Nakamura, N., Tanikawa, T.

Injector design towards ERL-based EUV-FEL for lithography

*Proc. IPAC2022, Bangkok, Thailand*, 2299 (2022).

Kuriki, M., Aramoto, S., Hayano, H., Jin, X., Kashiwagi, S., Liptak, Z., Sakaue, K., Seimiya, Y., Washio, M., Yamamoto, N., Yamamoto, Y.

Flat beam generation with the phase space rotation technique at KEK-STF

*Proc. IPAC2022, Bangkok, Thailand*, 1897 (2022).

Guo, L., Goto, K., Takashima, Y., Yamaguchi, H., Yamamoto, M.

Dependence of CsK2Sb photocathode performance on the quality of graphene substrate film

*Proc. IPAC2022, Bangkok, Thailand*, 2637 (2022).

Nakamura, N., Harada, K., Higashi, N., Kato, R.,

Nagahashi, S., Nigorikawa, K., Nogami, T., Obina, T., Sagehashi, H., Sakai, H., Shimada, M., Takai, R., Tanaka, O., Tanimoto, Y., Uchiyama, T., Ueda, A.

Reconstruction and beam-transport study of the cERL dump line for high-power IR-FEL operation

*Proc. IPAC2022, Bangkok, Thailand*, 1117 (2022).

Kawata, H., Nakamura, N., Sakai, H., Kato, R., Hajima, R.

High power light source for future extreme ultraviolet lithography based on energy-recovery linac free-electron laser  
*J. Micro/Nanopattern. Mats. Metro.* **21**, 021210 (2022).

Liu, F., Guo, L., DeFazio, J., Pavlenko, V., Yamamoto, M., Moody, N.A., Yamaguchi, H.

Photoemission from Bialkali Photocathodes through an Atomically Thin Protection Layer

*ACS Appl. Mater. Interfaces.* **14**, 1710 (2022).

Harada, K., Funamori, N., Yamamoto, N., Shimosaki, Y., Shimada, M., Miyajima, T., Umemori, K., Sakai, H., Nakamura, N., Sakanaka, S., Kobayashi, Y., Honda, T., Nozawa, S., Nakao, H., Niwa, Y., Wakabayashi, D., Amemiya, K., Igarashi, N.

Conceptual design of the Hybrid Ring with superconducting linac

*J. Synchrotron Radiat.* **29**, 118 (2022).

Katoh, M., Shimada, M., Miyauchi, H., Goto, K.

Present status of HiSOR

*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 1152 (2022).

## Photon Factory Activity Report 2022 #40 (2023) B

- Saito, H., Muto, T., Kashiwagi, S., Hinode, F., Hama, H.  
Study of generation of variably polarized superradiance in THz Region employing a crossed-undulator configuraiton  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 123 (2022).
- Yamaguchi, T., Sakanaka, S., Yamamoto, N., Naito, D., Takahashi T.  
High-power model design of the 1.5 GHz TM020-type harmonic cavity for the future synchrotron light sources  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 188 (2022).
- Muto, T., Kashiwagi, S., Hinode, F., Nanbu, K., Miura, S., Nagasawa, I., Takahashi, K., Kanomata, K., Kumagai, K., Shibata, K., Saito, H., Yamada, H., Yamada, S., Hama, H.  
Calculation of radiation from transverse gradient undulator  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 316 (2022).
- Mitsuda, C., Honda, T., Uchiyama, T., Sakanaka, S., Sasaki, H., Takaki, H., Tanimoto, Y., Naito, D., Nakamura, N., Nagahashi, S., Nogami, T., Yamamoto, N., Hanagaki, K., Ikegami, Y., Uno, S., Satoh, K., Togawa, M., Nakamura, I., Haba, J., Mori, T., Abe, S., Teramura, N., Maeda, J., Odagawa, T., Sumi, K., Maeda A.  
Construction of the GeV-range test beamline at KEK PF-AR  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 320 (2022).
- Katoh, M., Shinomiya, R., Asai, Y., Shimada, M., Miyauchi, H.  
Single electron storage at UVSOR-III  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 325 (2022).
- Sakai, H., Yamamoto, M., Honda, Y., Umemori, K., Yamada, T., Shimizu, H., Hirotaka Morikawa, H., Kamiya, Y., Tanaka, O., Nakamura, N., Harada, K., Higashi, N.  
Development of high-current electron beam accelerator using Nb<sub>3</sub>Sn superconducting RF accelerator for various materials  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 360 (2022).
- Goto, K., Guo, L., Yamaguchi, H., Nakatake, M., Takakura, S., Yamamoto, M., Takashima, Y.  
Evaluation of heat cleaning of graphene and hBN film substrate on a metal mesh for photocathode  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 410 (2022).
- Naito, D., Yamamoto, N., Takahashi, T., Yamaguchi, T., Sakanaka, S.  
Performance evaluation of the wide-band cavity cold-model to compensate the transient beam loading in the next generation litht sources  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 450 (2022).
- Kano, A., Katoh, M., Shimada, M., Miyauchi, H., Obina, T.  
Automatic tuning of beam optics by machine learning in compact ERL  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 454 (2022).
- Ozaki, T.  
Master equation of FELO  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **325**, 574 (2022).
- Higashi, N., Mitsuda, C., Nagahashi, S., Harada, K., Nogami, T., Uchiyama, T., Nakamura, N., Honda, T., Satoh, M., Okayasu, Y., Enomoto, Y.  
Realization of top-up operation of PF-AR with 5 GeV (2)  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 579 (2022).
- Ohyama, H., Iwano, S., Koike, R., Harada, N., Maruyama, T., Kasai, S., Sawada, K., Katoh, M., Kano, A., Asai, Y., Hirota, K., Obina, T., Honda, T.  
Human resource development through application of machine learning to particle accelerators  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 591 (2022).
- Ishida, M., Nogami, T., Yamamoto, M., Tanimoto, Y., Honda, T., Ueki, R., Takechi, H.  
Chemical evaluation of foreign substance found in accelerator coolant systems  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 624 (2022).
- Naito, D., Yamamoto, N., Takahashi, T., Iwaki, T., Terada, A., Harigae, T., Ryoshi, M., Sakanaka, S.  
The upgrade status of the KEK-PF low-level-RF system and performance test of their prototype  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 639 (2022).
- Nagahashi, S., Ikegami, Uchiyama, T., Takaki, H., Tanimoto, Y., Togawa, M., Nakamura, I., Nakamura, N., Nogami, T., Hanagaki, K., Honda, T., Mitsuda, C., Mori, T., Yoshida, G., Sumi, K.  
Installation of magnets and upgrade of accelerator safety interlock system for the GeV-range test beamline at PF-AR  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 671 (2022).
- Tanaka, O., Nakamura, N., Miyajima, T., Tanikawa, T.  
Injector design towards ERL-based EUV-FEL for lithography  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 694 (2022).
- Yamamoto, N., Sakanaka, S., Marchand, P., Gamelin, A., Nagaoka, R.  
Feasibility study of an active harmonic cavity for bunch lengthening in an electron storage ring  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 698 (2022).
- Shiozawa, M., Obina, T.  
Beam loss evaluation by gafchromic film  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 743 (2022).
- Fukuda, M., Morikawa, Y., Nigorikawa, K., Takeuchi, Y., Higo, T., Fukuda, S.  
Beam commissioning in the KEK education and training accelerator (KETA)  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 872 (2022).
- Tanaka, O., Miyajima, T., Tanikawa, T.  
Present status of the injector at the compact ERL at KEK  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 877 (2022).
- Takai, R., Obina, T., Tadano, M., Sagehashi, H., Shiozawa, M.  
Upgrade plan of fast orbit feedback system at PF-RING  
*Proc. Ann. Mtg Part. Accel. Soc. Jpn.* **2022**, 921 (2022).

Sasaki, H., Honda, T., Nogami, T., Uchiyama, T.,  
Tanimoto, Y., Hanagaki, K., Mitsuda, C., Takaki, H.,  
Nagahashi, S., Sakanaka, S., Yamamoto, N., Naito, D.,  
Togawa, M., Mori, T., Odagawa, T., Sumi, K., Maeda, A.

Design of target and vacuum components for PF-AR test  
beamline

*Proc. Ann. Mtg Part. Accel. Soc. Jpn. 2022*, 955 (2022).

Tsuchiya, K., Adachi, M., Saito, H., Eguchi, S., Shioya, T.,  
Kato, R.

Experience of magnetic measurement of adjustable phase  
undulator

*Proc. Ann. Mtg Part. Accel. Soc. Jpn. 2022*, 958 (2022).

Shinohara, S., Mitsuda, C., Naito, D., Okuda, T., Nakamura, T.

Development of a fast pulsed powersupply using SiC-  
MOSFETS for KEK-PF

*Proc. Ann. Mtg Part. Accel. Soc. Jpn. 2022*, 1010 (2022).

Lu, Y., Mitsuda, C., Takaki, H., Kobayashi, Y., Uchiyama, T.,  
Nogami, T.

Magnetic field evaluation of an octupole type ceramics  
chamber with integrated pulsed magnet for beam injection

*Proc. Ann. Mtg Part. Accel. Soc. Jpn. 2022*, 1019 (2022).

Date, K., Kuriki, M., Aramoto, S., Liptak, Z., Hayano, H.,  
Yamamoto, Y., Yamamoto, N., Washio, M., Sakaue, K.,  
Kashiwagi, S.

Experimental study of high luminosity beam generation in STF  
by phase space rotation

*Proc. Ann. Mtg Part. Accel. Soc. Jpn. 2022*, 1070 (2022).

Nogami, K., Hayakawa, Y., Sakai, T., Takahashi, Y.,  
Hayakawa, K., Tanaka, T., Sumitomo, Y., Sei, N., Ogawa, H.,  
Furukawa, K., Michizono, S., Tsuchiya, K., Yoshida, M.,  
Suwada, T., Fukuda, S., Enomoto, A., Ohsawa, S.,

Yamamoto, S., Shintomi, T.

Status of electron linac operation and light sources at lebra in  
NIHON UNIVERSITY

*Proc. Ann. Mtg Part. Accel. Soc. Jpn. 2022*, 1095 (2022).

Kobayashi, Y., Adachi, M., Ueda, A., Uchiyama, T.,  
Eguchi, S., Ozaki, T., Obina, T., Kageyama, T., Jin, X.,  
Saito, H., Sakai, H., Sakanaka, S., Sasaki, H., Sato, M.,  
Sato, Y., Sagehashi, H., Shiozawa, M., Shioya, T.,  
Shinohara, S., Shimada, M., Shimosaki, Y., Takai, R.,  
Takaki, H., Takahashi, T., Tadano, M., Tanaka, O.,  
Tanimoto, Y., Tahara, T., Tawada, M., Tsuchiya, K., Naito, D.,  
Nagahashi, S., Nakamura, N., Nigorikawa, K., Nogami, T.,  
Haga, K., Harada, K., Higashi, N., Honda, T., Marutsuka, K.,  
Mitsuda, C., Mimashi, T., Miyauchi, H., Yamamoto, N.,  
Yamamoto, M., Yoshida, M., Yoshimoto, S., Watanabe, K.

Present status of PF RING and PF-AR at KEK

*Proc. Ann. Mtg Part. Accel. Soc. Jpn. 2022*, 1099 (2022).

Sugimura, T., Ikegami, K., Obina, T., Kubota, C., Kurihara, T.,  
Kobayashi, H., Sato, M., Shibata, T., Takagi, A., Naito, F.,  
Nanmo, K., Fang, Z., Fukui, Y., Fukuda, M., Futatsukawa, K.,  
Miura, T., Miyajima, T., Kumada, H., Tanaka, S.,

Matsumoto, Y., Ohba, T., Nagura, N., Toyoshima, T., Oguri, H.

Status of the iBNCT accelerator in 2022

*Proc. Ann. Mtg Part. Accel. Soc. Jpn. 2022*, 1148 (2022).