

LIST OF PUBLICATIONS

BL-2, 11

Papers

- [1] Daisuke Okuda, Hiroaki Kobayashi, and Masashi Ishikawa: A higher redox potential of solid state oxygen redox in $\text{Li}_4\text{SiO}_4\text{-LiCoO}_2$ nano composite cathode, *Ceram. Int.*, **48** (2022) 35733-35739.
- [2] Yadan Ren, Jun Oyama, Tomoki Uchiyama, Yuki Orikasa, Toshiki Watanabe, Kentaro Yamamoto, Tsuyoshi Takami, Yoshinori Nishiki, Shigenori Mitsushima, and Yoshiharu Uchimoto: State of the Active Site in $\text{La}_{1-x}\text{Sr}_x\text{CoO}_{3-\delta}$ Under Oxygen Evolution Reaction Investigated by Total-Reflection Fluorescence X-Ray Absorption Spectroscopy, *ACS Appl. Energy Mater.*, **5** (2022) 4108-4116.
- [3] Kohei Yamagami, Haruka Yoshino, Hirona Yamagishi, Hiroyuki Setoyama, Arata Tanaka, Ryo Ohtani, Masaaki Ohba and Hiroki Wadati: The ligand field in low-crystallinity metal-organic frameworks investigated by soft X-ray core-level absorption spectroscopy, *Phys. Chem. Chem. Phys.*, **24** (2022) 16680-16686.
- [4] Ryutaro Fukuma, Maho Harada, Wenwen Zhao, Miho Sawamura, Yusuke Noda, Masanobu Nakayama, Masato Goto, Daisuke Kan, Yuichi Shimakawa, Masao Yonemura, Naohiro Ikeda, Ryuta Watanuki, Henrik L. Andersen, Anita M. D'Angelo, Neeraj Sharma, Jiwon Park, Hye Ryung Byon, Sayuri Fukuyama, Zhenji Han, Hitoshi Fukumitsu, Martin Schulz-Dobrick, Keisuke Yamanaka, Hirona Yamagishi, Toshiaki Ohta, and Naoaki Yabuuchi: Unexpectedly Large Contribution of Oxygen on Charge Compensation Triggered by Structural Disorder: Detailed Experimental and Theoretical Study on $\text{Li}_3\text{NbO}_4\text{-NiO}$ Binary System" *ACS Cent. Sci.*, **8** (2022) 775-794.
- [5] Mariya Yamagishi, Chengchao Zhong, Daisuke Shibata, Mayu Morimoto, and Yuki Orikasa: Effect of Fluorine Substitution in Li_3YCl_6 Chloride Solid Electrolytes for All-solid-state Battery, *Electrochemistry*, **91** (2023) 037002.
- [6] Nanaka Shimada, Yosuke Ugata, Satoshi Nishikawa, Daisuke Shibata, Toshiaki Ohta and Naoaki Yabuuchi: Improved electrode reversibility of anionic redox with highly concentrated electrolyte solution and aramid-coated polyolefin separator, *Energy Adv.*, **2** (2023) 508-512.
- [7] Yanjia Zhang, Miho Sawamura, Maho Harada, Yusuke Noda, Masanobu Nakayama, Masato Goto, Daisuke Kan, Yuichi Shimakawa, Benoît Denis Louis Campéon, Daisuke Shibata, Toshiaki Ohta, and Naoaki Yabuuchi: Partially Reversible Anionic Redox for Lithium-Excess Cobalt Oxides with Cation-Disordered Rocksalt Structure, *J. Phys. Chem. C*, **127** (2023) 2194-2203.

Domestic Meeting

- [1] 山岸真梨也, 鐘承超, 折笠有基: 塩化物系固体電解質 Li_3YCl_6 における異種アニオンドーブが充放電特性へ及ぼす影響, 第 63 回電池討論会, 博多, 11 月(2022).
- [2] 山岸真梨也, 鐘承超, 折笠有基: 全固体電池塩化物固体電解質 Li_3YCl_6 における異種アニオンドーブが充放電特性へ及ぼす影響, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).
- [3] 山岸真梨也, 鐘承超, 折笠有基: 塩化物系固体電解質に対するフッ素ドーブが充放電特性へ及ぼす影響, 2022 年度第 3 回関西電気化学研究会, オンライン, 12 月(2022).

International Meeting

- [1] Mariya Yamagishi, Chengchao Zhong, Yuki Orikasa: Anion-doping Effect of Chloride Electrolyte Li_3YCl_6 in All-solid-state Lithium-ion Batteries, Asian Conference on Electrochemical Power Sources 11, Singapore, December (2022).

BL-3, 4, 5

Papers

- [1] Mitsuharu Tabuchi, Yoshikazu Sasaki, Hideka Shibuya, Kyoussuke Doumae, Misaki Katayama, Keisuke Yamanaka, Yasuhiro Inada, Ryota Yuge, and Kei Kubota: Structural change and charge compensation mechanism for $\text{Li}_{1+x}(\text{Fe}_{0.1}\text{Ni}_{0.1}\text{Mn}_{0.8})_{1-x}\text{O}_2$ ($0 < x < 1/3$) positive electrode material during electrochemical activation, *Mater. Res. Bull.*, **149** (2022) 111743.
- [2] Satoshi Murase, Y. Yoshikawa, Kosuke Fujiwara, Yukimasa Fukada, Takashi Teranishi, Jun Kano, Tatsuo Fujii, Yasuhiro Inada, Misaki Katayama, Kenji Yoshii, Takuya Tsuji, Daiju Matsumura, and Naoshi Ikeda: Valence control of charge and orbital frustrated system YbFe_2O_4 with electrochemical Li^+ intercalation, *J. Phys. Chem. Solids*, **162** (2022) 110468.
- [3] Satoshi Asaoka, Toru Endo, Yasuhiro Ushihara, Akira Umehara, Chihiro Yogi, Toshiaki Ohta, Shinjiro

Hayakawa, Nobumichi Shutoh, Tetsuji Okuda: Spatial and temporal distribution of hydrogen sulfide and sulfur species in coastal marine sediments collected from Osaka Bay, Japan, *Mar. Chem.*, **251** (2023) 104233.

- [4] Kuniko Takemoto, Masataka Murakami, Masao Tabuchi, Toshiaki Ohta: Spectroscopic studies for identifying the chemical states of the periostracum of the *Corbicula* species in Lake Biwa, *Journal of Structural Biology* **215** (2023) 107944.

Domestic Meeting

- [1] 西川琢斗, 杉村悠樹, 石田貴也, 渡邊稔樹, 丹羽尉博, 木村正雄, 稲田康宏: 顕微 XAFS 法によるリン酸鉄リチウム正極のミクロな化学状態解析, 第 25 回 XAFS 討論会, 鳥栖, 8 月 (2022).
- [2] 石田貴也, 西川琢斗, 杉村悠樹, 丹羽尉博, 木村正雄, 稲田康宏, イメージング XAFS 法による炭素に担持した Ni 化学種の電気化学的酸化還元過程の化学状態解析, 第 12 回 CSJ 化学フェスタ, 東京, 10 月 (2022).
- [3] 西川拓斗, 石田貴也, 渡邊稔樹, 丹羽尉博, 木村正雄, 稲田康宏: リチウムイオン電池正極の X 線顕微法によるナノスケール空間 XAFS 解析, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).
- [4] 石田貴也, 西川拓斗, 杉村悠樹, 丹羽尉博, 木村正雄, 稲田康宏: NiO/Ni 対の電気化学的酸化還元過程における化学状態変化への粒子サイズの影響, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).
- [5] 前川颯太, 石田貴也, 稲田康宏: ZnO 上に担持した NiO の昇温還元過程における Ni 化学種の状態解析, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).
- [6] 片山美里, 西川拓斗, 稲田康宏: シリカに担持した銅およびニッケルに関する熱化学的塩化過程の状態解析, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).

BL-7

Domestic Meeting

- [1] 滝沢優, 光原主: 放射光照射によるミラー表面上炭素物質の電子状態分析, 2022 年 第 83 回応用物理学会秋季学術講演会, 仙台, 9 月 (2022).
- [2] 滝沢優, 光原主: 放射光照射によるミラー表面上炭素物質の電子状態分析, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).

International Meeting

- [1] Masaru Takizawa, Ryo Ihara, and Kei Mitsuhashi: Electronic state analysis of Li metal surfaces, The 22nd International Vacuum Congress IVC-22, Sapporo, September (2022).

BL-8

Papers

- [1] Atsuki Tsuji, Pengfei Jia, Masaru Takizawa, and Junji Murata: Improvement in the polishing characteristics of titanium-based materials using electrochemical mechanical polishing, *Surfaces and Interfaces*, **35** (2022) 102490.
- [2] Yasushi Hoshino, Yuhei Seki, and Kei Mitsuhashi: Local structures of phosphorus atoms implanted in crystalline diamond, *Journal of Applied Physics*, **132** (2022) 165704.

Domestic Meeting

- [1] 杉江知輝, 滝沢優, Rutile TiO₂(110)上 Pentacene の分子配向分析, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).
- [2] 杉江知輝, 滝沢優, Rutile TiO₂(110)上 Pentacene の分子配向, 2023 年 第 70 回応用物理学会春季学術講演会, 東京, 3 月 (2023).

BL-10, 13

Papers

- [1] Daisuke Okuda, Hiroaki Kobayashi, and Masashi Ishikawa: A higher redox potential of solid state oxygen redox in Li₄SiO₄-LiCoO₂ nano composite cathode, *Ceramics International*, **48** (2022) 35733-35739.
- [2] Yasushi Hoshino, Yuhei Seki, and Kei Mitsuhashi: Local structures of phosphorus atoms implanted in crystalline

diamond, *Journal of Applied Physics*, **132** (2022) 165704.

- [3] Nur Chamidah, Shu Tsuchida, Toyonari Yaji, Akinori Irizawa, Chengchao Zhong, Ken-ichi Okazaki, Yuki Oriksa: Light-assist electrochemical lithiation to silicon semiconductor, *Electrochemistry Communications*, **149** (2023) 107459.
- [4] Satoshi Asaoka, Toru Endo, Yasuhiro Ushihara, Akira Umehara, Chihiro Yogi, Toshiaki Ohta, Shinjiro Hayakawa, Nobumichi Shutoh, Tetsuji Okuda: Spatial and temporal distribution of hydrogen sulfide and sulfur species in coastal marine sediments collected from Osaka Bay, Japan, *Mar. Chem.*, **251** (2023) 104233.
- [5] Masashi Ishii, Kosuke Tanabe, Asahiko Matsuda, Hironori Ofuchi, Takahiro Matsumoto, Toyonari Yaji, Yasuhiro Inada, Hiroaki Nitani, Masao Kimura, and Kiyotaka Asakura: Integration of X-ray absorption fine structure databases for data-driven materials science, *Science and Technology of Advanced Materials: Method*, Accepted.

International Meeting

- [1] Nur Chamidah, and Yuki Oriksa: A Lithium Intercalation Analysis of Photo-assisted Lithium-ion Battery, International Meeting on Lithium Batteries 2022, Sydney, June-July (2022).
- [2] Shu Tsuchida, Nur Chamidah, Chengchao Zhong, Yuki Oriksa: Photo-assist Electrochemical Lithiation Reaction of Germanium Electrode, 17th Asian Conference on Solid State Ionics, Nagoya, September (2022).
- [3] Nur Chamidah, Shu Tsuchida, Chengchao Zhong, and Yuki Oriksa: Photo-assisted Electrochemical Lithium Insertion Reaction for Lithium-ion Battery Anode, The 2022 Basic Science International Conference, Malang, September (2022).
- [4] Nur Chamidah, Shu Tsuchida, Chengchao Zhong, and Yuki Oriksa: Light-assisted Lithium Alloying Reaction of Silicon Anodes in Lithium-ion Battery, Asian Conference on Electrochemical Power Sources 11, Singapore, December (2022).
- [5] Shu Tsuchida, Chengchao Zhong, Yuki Oriksa Nur Chamidah: Photo-assist Electrochemical Lithiation Reaction of Germanium Electrode, Asian Conference on Electrochemical Power Sources 11, Singapore, December (2022).

Domestic Meeting

- [1] 乙山美紗恵, 竹内友成, 橘田晃宜, 石田直哉, 田口昇, 鰐淵瑞絵, 佐野光, 川本浩二, 倉谷健太郎, 柴部比夏里: Li_xVS_y 多硫化物正極の構造評価と全固体電池特性, 第 63 回電池討論会, 福岡, 11 月 (2022).
- [2] 竹内友成, 橘田晃宜, 乙山美紗恵, 田口昇, 鰐淵瑞絵, 佐野光, 川本浩二, 倉谷健太郎, 柴部比夏里: 鉄含有多硫化物(Li_xFeS_y)を用いた全固体電池の性能向上の検討, 第 63 回電池討論会, 福岡, 11 月 (2022).
- [3] 棟方咲衣, 増野敦信, 築場豊, 井上博之: 無容器法で合成した $\text{La}_2\text{O}_3\text{-MoO}_3$ 系ガラスの物性と構造, 日本セラミックス協会第 63 回ガラスおよびフォトニクス材料討論会, 八王子, 12 月 (2022).

BL-15

Papers

- [1] Takayasu Kawasaki, Heishun Zen, Takeshi Sakai, Yoske Sumitomo, Kyoko Nogami, Ken Hayakawa, Toyonari Yaji, Toshiaki Ohta, Takashi Nagata, and Yasushi Hayakawa: Degradation of Lignin by Infrared Free Electron Laser, *Polymers*, **14** (2022) 2401.
- [2] Tetsuya Adachi, Nao Miyamoto, Hayata Imamura, Toshiro Yamamoto, Elia Marin, Wenliang Zhu, Miyuki Kobara, Yoshihiro Sowa, Yoshiro Tahara, Narisato Kanamura, Kazunari Akiyoshi, Osam Mazda, Ichiro Nishimura, and Giuseppe Pezzotti: Three-Dimensional Culture of Cartilage Tissue on Nanogel-Cross-Linked Porous Freeze-Dried Gel Scaffold for Regenerative Cartilage Therapy: A Vibrational Spectroscopy Evaluation, *International Journal of Molecular Sciences*, **23** (2022) 8099.

Domestic Meeting

- [1] 足立哲也: 健康長寿社会の実現に寄与するナノゲルハイブリッド材料の創成(褒章制度受賞者講演「研究奨励賞」), 第 22 回日本抗加齢医学会総会, 大阪(ハイブリッド開催), 6 月 (2022).
- [2] 足立哲也, 田原義朗, 宮本奈生, 新屋政春, 山本俊郎, Giuseppe Pezzotti, 秋吉一成, 松田修, 金村成智: ナノゲル工学を基盤技術とした免疫療法および再生医療の開発, 2022 年度砥粒加工学会学術講演会(ABTEC2022), 横浜(ハイブリッド開催), 8 月 (2022).
- [3] 川崎平康, 清紀弘, 山口裕資, 境武志, 木下輝, 住友洋介, 野上杏子, 早川建, 家路豊成, 太田俊明, 永田崇, 全炳俊, 入澤明典, 早川恭史, 谷正彦, 築山光一: 赤外自由電子レーザーとジャイロトロン

を用いたリグノセルロースの構造研究(企画講演 8 『赤外自由電子レーザーによる物質研究の現状と未来展望』), 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).

SA-1

International Meeting

- [1] T. Miyazaki, A. Irizawa, K. Mitsuhashi, Y. Kanai-Nakata, S. Fujieda, S. Imada: Observation of FeGa Alloys by Hard and Soft X-ray Photoelectron Spectroscopy, The 9th International Conference on Hard X-ray Photoelectron Spectroscopy, Himeji, May-June (2022).
- [2] S. Imada, A. Irizawa, K. Mitsuhashi: Dy 3d core-level lineshape and its correspondence with chemical state, The 9th International Conference on Hard X-ray Photoelectron Spectroscopy, Himeji, May-June (2022).

Domestic Meeting

- [1] 宮崎徹也, 入澤明典, 光原圭, 藤枝俊, 今田真: FeGa 合金の軟 X 線と硬 X 線による X 線光電子分光測定, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).
- [2] 陳昱辰, 島田祐希, 臼井大智, 宮崎徹也, 浅井祥太, 島本将徳, 野末悟郎, 尾瀬朱音, 橋爪快人, 堤美和, 村上友梨, 田中菜摘, 中田惟奈, 藤原秀紀, 濱本諭, 東谷篤志, 山崎篤志, 関山明, 森戸春彦, 今田真: 硬 X 線光電子分光を用いたタイプ II-クラスレートの電子状態の研究, 第 36 回日本放射光学会年会・放射光科学合同シンポジウム, 草津, 1 月 (2023).