

## 研究成果

### 【口頭発表 (国際)】

1. Naoto Koretaka, Eiji Higuchi, Masanobu Chiku and Hiroshi Inoue, "Electrochemical Analysis of Charge Transfer Reaction at the  $\text{Li}_2\text{S-P}_2\text{S}_5$  Solid Electrolyte / Li Alloy Electrode Interface", 7th KIFEE International Symposium on Environment, Energy and Materials, Kyoto, (2014.3.18)
2. Atsutaka Kato, Akitoshi Hayashi and Masahiro Tatsumisago, "Improvement of Utilization of Li Metal Electrode by Interface Modification with Gold Thin Films in All-Solid-State Batteries Using  $\text{Li}_2\text{S-P}_2\text{S}_5$  Solid Electrolytes", International Union of Materials Research Societies-International Conference on Electronic Materials 2016 (IUMRS-ICEM2016), Singapore, (2016.7.4-8)
3. So Yubuchi, Akitoshi Hayashi and Masahiro Tatsumisago, "Superionic Conducting  $\text{Li}_6\text{PS}_5\text{Br}$  Solid Electrolytes Synthesized Using Ethanol via Liquid-Phase Technique", 252<sup>nd</sup> American Chemical Society National Meeting & Exposition, Philadelphia, USA, (2016.8.21-25)
4. Akitoshi Hayashi, Takuya Matsuyama, Minako Deguchi, Shigeo Mori and Masahiro Tatsumisago, "Electrochemical Performance and Structural Analyses of Amorphous  $\text{TiS}_3$  Positive Electrode in All-Solid-State Batteries", Pacific Rim Meeting on Electrochemical and Solid-State Science (PRiME2016), Hawaii, USA, (2016.10.2-7)
5. Atsushi Sakuda, Kentaro Kuratani, Mari Yamamoto, Masanari Takahashi, Tomonari Takeuchi, Hironori, Kobayashi, "Sheet-Type All-Solid-State Batteries Using Electrode Sheets with Effective Electrode-Electrolyte Interface", Pacific Rim Meeting on Electrochemical and Solid-State Science (PRiME2016), Hawaii, USA, (2016.10.2-7)
6. M. Huang, T. Fukutsuka, K. Miyazaki, A. Hayashi, M. Tatsumisago, T. Abe, "Interfacial Lithium-Ion Transfer Between Graphite Negative Electrode and Sulfide Solid Electrolyte", Pacific Rim Meeting on Electrochemical and Solid-State Science (PRiME2016), Hawaii, USA, (2016.10.2-7)
7. Hideya Nakamura, Takashi Kawaguchi, Satoru Watano "Dry Coating of Electrode Particle with Model Particle of Sulfide Solid Electrolytes for All-Solid-State Secondary Battery", Proc. of the AIChE Annual Meeting 2016, (2016.11.13-18)
8. Atsutaka Kato, Akitoshi Hayashi and Masahiro Tatsumisago, "SEM Observation for morphology of  $\text{Li/Li}_3\text{PS}_4$  Interface Modified with Gold Thin Films in All-Solid-State Lithium Batteries", KIFEE 9 Symposium, Kyoto, (2017.3.8-9)
9. Kentaro Yamamoto, Koji Nakanishi, Naoaki Yabuuchi, Takahiro Yoshinari, Takanori Kobayashi, Yuki Kobayashi, Rina Yamamoto, Aruto Watanabe, Keisuke Yamanaka, Jiwon Park, Hye Ryung Byon, Yuki Orikasa, Yusuke Tamenori, Toshiaki Ohta and Yoshiharu Uchimoto, "Charge compensation mechanism in lithium-rich cathode materials with different ionic or covalent character", Lithium Batteries Discussions 8 (LiBD8), France, (2017.6.11-16)
10. Yuta Fujii, Akira Miura, Nataly Carolina Rosero-Navarro, Mikio Higuchi, Kiyoharu Tadanaga, "Charge-Discharge Performance of  $\text{FePS}_3$  electrodes in All-Solid-State Lithium Secondary Batteries using  $\text{Li}_2\text{S-P}_2\text{S}_5$  Solid Electrolytes", International Conference on Materials for Advanced Technologies (ICMAT) 2017, D-07, Singapore, (2017.6.18-23)
11. Nataly Carolina Rosero-Navarro, Taiki Kinoshita, Akira Miura, Mikio Higuchi and Kiyoharu Tadanaga,

- “Preparation of composite cathode with high content of active material for all-solid-state battery using  $\text{Li}_6\text{PS}_5\text{Cl}$  precursor solution containing ethyl-cellulose as binder”, 21<sup>st</sup> International Conference on Solid State Ionics, Padova, Italy, (2017.6.18-23)
12. So Yubuchi, Miwa Uematsu, Akitoshi Hayashi and Masahiro Tatsumisago, “Liquid-Phase Synthesis of Thiophosphate-based  $\text{Li}_6\text{PS}_5\text{Br}$  Electrolytes with High Lithium-Ion Conductivities” Borate Glasses, Crystals and Melts: 9<sup>th</sup> International Conference and Phosphate Materials: 2<sup>nd</sup> International Conference (Borate & Phosphate 2017), Oxford, UK, (2017.7.24-28)
  13. Hideya Nakamura, Satoru Watano, “Optimization of Dry Coating Process of Electrode Particle”, 7th Asian Particle Technology Symposium, Taiwan, (2017.8.1)
  14. Kezheng Chen, Kentaro Yamamoto, Yuki Oriksa, So Yubuchi, Yusuke Ito, Akitoshi Hayashi, Masahiro Tatsumisago, Kiyofumi Nitta, Tomoya Uruga, Yoshiharu Uchimoto, “Elucidation of Reaction Mechanism at the high voltage cathode/electrolyte Interface in All-solid-state Battery”, The 9th Asian Conference on Electrochemical Power Sources 2017 (ACEPS-9), Korea, (2017.8.20-23)
  15. Masashi Hattori, Kentaro Yamamoto, Yuki Oriksa, Koji Nakanishi, Kosuke Nakamoto, Tomoki Uchiyama, Yusuke Tamenori, Yoshiharu Uchimoto, “Study on Electrochemical Magnesium Deposition by operando Soft X-ray Absorption Spectroscopy”, The 9th Asian Conference on Electrochemical Power Sources 2017 (ACEPS-9), Korea, (2017.8.20-23)
  16. Nataly Carolina Rosero-Navarro, Taiki Kinoshita, Akira Miura, Mikio Higuchi and Kiyoharu Tadanaga, “Preparation of lithium ion conductive  $\text{Li}_6\text{PS}_5\text{Cl}$  solid electrolyte from solution for the fabrication of cathode composite of all solid-state lithium battery”, The 19<sup>th</sup> International Conference Sol-Gel Conference, Liege, Belgium, (2017.9.3-8)
  17. Hiromu Suzuki, Kentaro Yamamoto, Yukiko Matsui, Koji Nakanishi, Tomoki Uchiyama, Masashi Ishikawa, Yoshiharu Uchimoto, “Electronic structure change of sulfur cathode observed by operando soft X-ray absorption spectroscopy”, 16th Asian Conference on Solid State Ionics, Shanghai, (2018.8.5-9).
  18. Masakuni Takahashi, Hiromu Suzuki, Kentaro Yamamoto, Tomoki Uchiyama, Atsunori Matsuda, Yoshiharu Uchimoto, “Observation of the  $\text{Li}_3\text{PS}_4$  formation mechanism by total X-ray scattering measurement coupled to pair distribution function analysis”, Americas International Meeting on Electrochemistry and Solid State Science 2018, Cancun, (2018.9.30-10.4)
  19. Misae Otoyama, Hiroe Kowada, Atsushi Sakuda, Akitoshi Hayash, Masahiro Tatsumisago, “In-situ Optical Microscopy for Cross-Sectional Graphite Electrode Layers in All-Solid-State Lithium Batteries”, 10th KIFEE Symposium, Tromso-Trondheim, MS Finnmarken, Norway, (2018.10.5-8)
  20. Yoshiharu Uchimoto, “Reaction Distribution in Composite Electrodes for All-Solid-State Lithium-Ion Batteries with Sulfide-Based Solid Electrolyte”, The Electrochemical Conference on Energy and the Environment (ECEE 2019): Bioelectrochemistry and Energy Storage, Glasgow, (2019.7.21-26)
  21. Takuya Kimura, Chie Hotehama, Atsushi Sakuda, Masahiro Tatsumisago, Akitoshi Hayashi, “Crystal Structure and Ionic Conductivity of the Argyrodite-type  $\text{Li}_6\text{SbS}_5\text{I}$  Solid Electrolytes”, The 13th Pacific Rim Conference of Ceramic Societies (PACRIM13), Okinawa, (2019.10.27-11.1)
  22. Ayane Inoue, Kenji Nagao, Atsushi Sakuda, Masahiro Tatsumisago, Akitoshi Hayashi, “Preparation and Characterization of  $\text{Li}_3\text{BS}_3$  Glassy Electrolyte via Mechanochemical Process”, The 13th Pacific Rim

Conference of Ceramic Societies (PACRIM13), Okinawa, (2019.10.27-11.1)

23. Tomohito Umeda, Motoshi Suyama, So Yubuchi, Atsushi Sakuda, Masahiro Tatsumisago, Akitoshi Hayashi, "Synthesis and Characterization of Li-Argyrodite  $\text{Li}_{7-x}\text{PS}_{6-x}\text{Cl}_x$  Electrolyte for the Utilization of Li Metal Negative Electrode", The 13th Pacific Rim Conference of Ceramic Societies (PACRIM13), Okinawa, (2019.10.27-11/1)
24. Mari Yamamoto, Yoshihiro Terauchi, Atsushi Sakuda, Atsutaka Kato, Masanari Takahashi, "Fabrication of Silicon-composite Electrodes by Slurry Coating for All-Solid-State Batteries", The 13rd Pacific Rim Conference of Ceramic Societies (PACRIM13), Okinawa, (2019.10.27-11.1)
25. Hirokazu Kitaura, Eiji Hosono, Haoshen Zhou, "Fabrication of Li—solid electrolyte interface by ultrasonic-assisted thermal fusion bonding process", The 13th Pacific Rim Conference of Ceramic Society (PACRIM13), Okinawa, (2019.10.27-11.1)