

第453回触媒科学研究所コロキウム

Studying dynamics of photoexcited materials using fs x-ray spectroscopies at XFELs

Dr. Yohei Uemura

(European XFEL GmbH)

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創成科学研究棟 5階 大会議室

<http://www.cat.hokudai.ac.jp/access.html>



Since XFEL facilities were started, various kinds of new x-ray techniques have been developed. X-ray spectroscopies are one of the standard measurements in XFEL facilities. X-ray spectroscopies can chemical states or local structures of a specific element in a material. In particular, dynamics of photoexcited states of materials can be tracked using x-ray spectroscopies with a time resolution of 100 fs. In this presentation, I would like to demonstrate some examples of the studies on dynamics of excited states of photocatalysts such as WO_3 , $\alpha\text{-Fe}_2\text{O}_3$ using x-ray spectroscopies. I would also like to introduce recent our developments of X-ray spectroscopies (XAS/XES) at European XFEL.

[Academic carriers]

- Postdoc researcher in Photon Factory, KEK, (2010–2011)
- Postdoc researcher in Hokkaido University, Japan (2012)
- JSPS Research Fellow (PD) in Hokkaido University, Japan (2013)
- Assistant professor in Institute for Molecular Science, Japan (2013–2018)
- Postdoctoral Researcher, Utrecht, NL (2018–2019)
- Postdoctoral Researcher, Paul Scherrer Institute, CH (2019 – 2021)
- European XFEL, GE (2021–)

[Honors and Awards]

- Distinguished Paper Award, e-Journal of Surface Science and Nanotechnology, The Japan Society of Vacuum and Surface Science(2021)
- Poster Award, International Symposium on Novel Energy Nanomaterials, Catalysts and Surfaces for Future Earth: (2017)
- Emerging Investigator, Chemical Communications, Royal Society of Chemistry: (2017)
<https://pubs.rsc.org/en/journals/articlecollectionlanding?sercode=cc&themeid=5ec39980-7fba-4e81-8364-3493e4008647>
- Young Scientist Awards, The Japanese Society for Synchrotron Radiation Research (2017)
- other 3 poster/presentation awards

問合せ先: 飯田健二 准教授 (k-iida@cat.hokudai.ac.jp • 011-706-9145)

共催: 触媒科学計測共同研究拠点, 学際統合物質科学研究機構