

## アト秒科学研究チーム / Attosecond Science Research Team

## (1) 原著論文 (accept) を含む / Original Papers

1. Xu, L., Xue, B., Ishii, N., Itatani, J., Midorikawa, K., and Takahashi, E.J., “100-mJ class, sub-two-cycle, carrier-envelope phase-stable dualchirped optical parametric amplification”, *Opt Lett* 47, 3371-3374 (2022).
2. Matsubara, T., Nabekawa, Y., Ishikawa, K. L., Yamanouchi, K., and Midorikawa, K., “Attosecond optical and Ramsey-type interferometry by post-generation splitting of harmonic pulse”, *Ultrafast Science 2022*, article ID 9858739 (2022).
3. Ishikawa, T., Isobe, K., Inazawa, K., Michikawa, T., Namiki, K., Miyawaki A., Kannari, F., and Midorikawa, K., “Fringe- and speckle-free holographic patterned illumination using time-multiplexed temporal focusing”, *Appl. Phys. Express* 15, 042005 (2022).
4. Ito, K. N., Isobe, K., and Osakada, F., “Fast z-focus controlling and multiplexing strategies for multiplane two-photon imaging of neural dynamics”, *Neurosci. Res.* 179, 15 (2022).
5. Tamura, Y., Yamazaki, K., Ueda, K., and Hatada, K., “A multiple scattering theoretical approach to time delay in high energy core-level photoemission of heteronuclear diatomic molecules”, *J. Phys. B: At. Mol. Opt. Phys.* 55, 10LT01 (2022).
6. Kastirke, G., Ota, F., Rezvan, D. V., Schöffler, M. S., Weller, M., Rist, J., Boll, R., Anders, N., Baumann, T. M., Eckart, S., Erk, B., De Fanis, A., Fehre, K., Gatton, A., Grundmann, S., Grychtol, P., Hartung, A., Hofmann, M., Ilchen, M., Janke, C., Kircher, M., Kunitski, M., Li, X., Mazza, T., Melzer, N., Montano, J., Music, V., Nalin, G., Ovcharenko, Y., Pier, A., Rennhack, N., Rivas, D. E., Dörner, R., Rolles, D., Rudenko, A., Schmidt, P., Siebert, J., Strenger, N., Trabert, D., Vela-Perez, I., Wagner, R., Weber, T., Williams, J. B., Ziolkowski, P., Schmidt, L. Ph. H., Czasch, A., Tamura, Y., Hara, N., Yamazaki, K., Hatada, K., Trinter, F., Meyer, M., Ueda, K., Demekhin, Ph. V., and Jahnke, T., “ Investigating charge-up and fragmentation dynamics of oxygen molecules after interaction with strong X-ray free-electron laser pulses”, *Phys. Chem. Chem. Phys.* 24, 27121-27127 (2022).

## (2) 著書・解説など / Book Editions, Review Papers

1. 緑川克美, “超短パルス”, 光と物質の量子相互作用ハンドブック, (株) エヌ・ティー・エス (2023).
2. 山崎馨, “芳香族分子におけるX線誘起無輻射失活過程の動力学”, 分子シミュレーション

ン学会誌「アンサンブル」, 25, 1, 28-33 (2023).

3. 沖野友哉, 「強光子場分子科学」(山内 薫 編著, 分担執筆), 第 6 章「原子のイオン化と再衝突およびアト秒パルス発生」, 262-346, 朝倉書店 (2022).
4. 道川貴章, 宮脇敦史, “マウス小脳皮質の大規模イメージングで明らかとなった複雑スパイクによる感覚情報表現の仕組み”, *Clinical Neuroscience* Vol. 40 No. 6 (2022).

### (3) 招待講演 / Invited Talks

1. Midorikawa, K., “The third-generation table-top attosecond light sources”, *Ultrafast Optics XIII*, Bariloche, Argentina, March (2023).
2. Okino, T., “Development of multifragment 3D ion momentum imaging methods for investigating ultrafast dynamics of polyatomic molecules”, *19th International Symposium on Ultrafast Intense Laser Science (ISUILS2022)*, Honolulu, USA, December (2022).
3. Okino, T., “Multiscale Ion Momentum Imaging: Investigating Ultrafast Dynamics of Polyatomic Molecules”, *12th Asian Symposium on Intense Laser Science (ASILS12)*, NTU, Singapore, December (2022).
4. Lin, Y., Nabekawa, Y., and Midorikawa, K., “Development of a sub-cycle short-wave infrared laser and its application”, *12th Asian Symposium on Intense Laser Science (ASILS12)*, Singapore, December (2022).
5. Xu, L., Takahashi, E.J., “Over 60-mJ, Mid-IR Single-Cycle Pulses based on the Advanced DC-OPA”, *12th Asian Symposium on Intense Laser Science (ASILS12)*, Singapore, December (2022).
6. Nabekawa, Y., “Attosecond Control of Simple Molecules and Atoms Using XUV High-harmonic Pulse Pairs”, *ANSO Symposium on Basic Science for Sustainable Development*, Xi'an (+Online), China, September 9–9 (2022).
7. Midorikawa, K., “Increase in photon flux of isolated attosecond pulses”, *8th Int. Conf. on Attosecond Sci. & Tech.* Orland FL, USA, July (2022).
8. Lin, Y., Nabekawa, and Y., Midorikawa, K., “Optical Parametric Amplification of sub-Cycle Shortwave Infrared Pulses”, *Conference on Lasers and Electro-Optics (CLEO) 2022*, San Jose & Online (Hybrid), USA, May (2022).
9. Isobe K., “Adaptive optics for temporal focusing and two-photon patterned illumination”, *International Symposium on Comprehensive understanding of scattering and fluctuated fields and science of clairvoyance*, Yokohama, April (2022).
10. Midorikawa, K., “Recent progress of isolated attosecond pulses”, *1st Int. Conf. on Ultrafast X2021*, online, April (2022).

11. 山崎馨 “X 線光化学反応の X 線過渡吸収分光理論”, 第 6 回 RIKEN RAP-QST KPSI 合同セミナー, QST 関西光科学研究所, 京都, 2 月 8 日, (2023).
12. 磯部圭佑, 道川貴章, “多細胞イメージング・操作のための光技術開発とその展望” 光量子工学センター臨時セミナー, 和光, 2 月 7 日, (2023).
13. 山崎馨 “X 線光化学反応追跡のための X 線過渡吸収分光法”, Q-LEAP 第 21 回アト秒懇談会, 東京, 9 月 28 日, (2022).

#### (4) 会議、シンポジウム、セミナー主催 / Meeting, Symposiums and Seminars

1. Extreme Photonics Seminar, “Attosecond coincidence spectroscopy on molecular, cluster and liquids “, Prof. Hans Jakob Wörner, Wako, November 25 (2022).

#### (5) 特許出願 / Patent Applications

1. 藤原孝成, 緑川克美, “液体薄膜フラットジェット・モジュールと真空中における回収・再循環機構”, 2023 年 3 月.

#### (6) 特筆すべき事項・トピックス (雑誌表紙などの掲載記事) / Topics

1. Lin. Y., “JSAP Diversity & Inclusion Awards”, March 2023.
2. Lin. Y., “The 15th Osaka University Kondo Prize”, July 2022.