

業績目録（上田潔）

著者	東北大学史料館
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東北大学定年退職教員業績目録第 2019-43 号

上田 潔 教授 業績目録

令和 2 年 3 月
東北大学史料館

上田 潔

UEDA Kiyoshi

多元物質科学研究所計測研究部門電子分子動力学研究分野教授

出身大学院

1973年4月—1977年3月 京都大学工学部（1977年3月卒業）

1977年4月—1982年3月 京都大学大学院工学研究科博士課程（1982年3月修了）

取得学位 工学博士

略歴

1982年4月—1990年5月 東北大学科学計測研究所 助手

1990年6月—2001年3月 東北大学科学計測研究所 助教授

2001年4月—2003年3月 東北大学多元物質科学研究所 助教授

2003年4月—2020年3月 東北大学多元物質科学研究所 教授

在外研究員等

Visiting Scientist, Univ. Maryland USA, February 1985 - February 1987

Invited Senior Scientist, Daresbury Laboratory, UK, August 1992 - September 1993

Invited professor, Université Paris Sud, France, October 1996 - September 1997

Invited distinguished professor, Shanghai Tech. University, March 2020-03から

Invited distinguished professor, Eastern China Normal University, March 2020-03から

専門分野

電子分子動力学、原子分子科学、放射光・X線自由電子レーザー科学

研究課題

放射光・短波長自由電子レーザー・フェムト秒レーザーを用いた原子・分子・クラスター・ナノ粒子といった微小な量子系の電子・構造動力学の研究およびその実験を可能とする装置・計測法の開発

超高速分子イメージングおよび超高速電荷・エネルギー移動の可視化実験

光イオン化ダイナミクス・X線自由電子レーザー照射下の電子・分子ダイナミクス研究

高励起状態・内殻励起状態・過渡状態・衝突中間体・反応中間体の分光学的研究

所属学会

日本化学会，日本分光学会，日本放射光学会，原子衝突学会，日本物理学会、分子科学会

学会活動

物理学会領域 1 世話人 (1990-1991) 領域代表 (2009-2010)

会議の主催・運営

International Workshop on Photoionization 2000 International Advisory; 2002 Chair; 2005, 2008 International Advisory

International Physical Chemistry Colloquium: on Ultrafast and Intense field phenomena 2004 Chair; on Ultrafast Spectroscopy and Imaging of Chemical and Biological Systems 2013 Chair; on Ultrafast electronic and structural dynamics 2017 Chair

International Workshop on Electronic Spectroscopy of Gas-Phase Molecules and Solid Surfaces 2009 Chair

International Conference on Many Particle Spectroscopy of Atoms, Molecules, Clusters and Surfaces 2010 Chair; 2012, 2014, 2016, 2018 International Advisory

Intense field, Short Wavelength Atomic and Molecular Processes 2013 Chair, 2015, 2017, 2019, International Advisory

International Workshop on Photoionization International Workshop on Photoionization & RIXS 2011, 2014, 2017 International Advisory; 2020 Chair

International Conference on X ray and Inner-shell Processes 1999, 2002, 2005, 2008, International advisory

International Conference on VUV Physics 2003, 2006, Program committee

International Conference on VUVX Physics 2010, 2013, International Advisory / Program committee

International Conference on Multi-photon processes 2008, 2011, 2014, 2017 Program Committee / International Advisory

International Conference on Electron Spectroscopy and Structure 2006, 2009, 2012, Program committee

International Conference on Photonic, Electronic and Atomic Collisions 2009, 2011, General committee

International Conference on Photonic, Electronic and Atomic Collisions 2015~2021, Executive committee; ICPEAC2017 Vice chair, ICPEAC 2019 Chair

Ultrafast Dynamic Imaging of matter, 2009, program committee; 2012, 2015 organizing committee, 2018 Chair

HRSIS-2012 program committee

学術受賞 なし

その他の研究活動：学術誌編纂等

Phys. Rev. X editorial Board (2019~present)

J. Phys. B: At. Mol. Opt. Phys. Editorial Board (2003-2014)

J. Phys. B: At. Mol. Opt. Phys. Guest Editor for special issues on “Frontiers on FEL science” (2013); “Frontiers on FEL science II” (2015); “Correlations in light-matter interactions” (2017); ““Frontiers of AMO Science with FELs and Synchrotron Radiation” (submission open until May 2020)

J. Phys. B: At. Mol. Opt. Phys. Guest Editor for “Roadmap on Roadmap on photonic, electronic and atomic collision physics. I. Light-matter interaction; II Electron and Antimatter interactions; III. Heavy particles: with zero to relativistic speeds” (2019)

J. Electr. Spectrosc. Relat. Phnom., Guest Editor for special issue on “Frontiers on coincidence experiments” (2004).

Applied Sciences, Guest editor for special issues on “X-ray free electron lasers” (2017); “Science at X-ray free electron lasers” (submission open until March 2020)

SpringerNature, Book edits on “Ultrafast electronic and structural dynamics” (2020)

科学研究費補助金獲得実績（平成8年以降の代表のみ）

科学研究費基盤研究(B) (2) 平成8-10年度：

小さな分子の内殻励起における異方性と緩和ダイナミクスの研究
代表者，研究経費：7,200千円

科学研究費基盤研究(B) (2) 平成11-13年度：

内殻励起分子の核の運動と解離ダイナミクス
代表者，研究経費：15,000千円

科学研究費基盤研究(C) (2) 平成15-16年度：

内殻励起状態フェムト秒ダイナミクスが支配する分子解離の探索
代表者，研究経費：3,600千円

科学研究費基盤研究(B) 平成18-19年度：

気体分子の内殻光電子分光：共鳴，量子干渉，非断熱効果と内殻イオン化状態の構造決定
代表者，研究経費：14,200千円

科学研究費補助金基盤研究(A) 平成21-23年度：

2相クラスターの選択的多重イオン化後の電荷移動とエネルギー移動
代表者，研究経費：36,100千円

その他競争的資金獲得実績

松尾財団研究助成金（松尾記念財団） 平成 10-11 年度：

分子内殻励起状態における原子移動とその動的効果 代表者，研究経費：4,500 千円

CREST 電子・光子等の機能制御

光・電子波束エンジニアリング 平成 15-16 年度 分担者

X線自由電子レーザー利用推進研究課題（文部科学省） 平成 19-20 年度：

FEL 励起反応追跡のための電子・イオン運動量多重計測

代表者、研究経費：57,140 千円

X線自由電子レーザー利用推進研究課題（文部科学省） 平成 21-22 年度：

XFEL 光と先端レーザー光による原子・分子・クラスターのポンプ・プローブ計測

（電子・イオン運動量多重計測装置による FEL 利用ポンプ・プローブ実験技術）

代表者、研究経費：46,636 千円

X線自由電子レーザー重点戦略研究課題（文部科学省） 平成 24-28 年度：

気相・液相・固相反応のフェムト秒ダイナミックイメージングを目指して

代表者、研究経費：137,320 千円

報道

全国紙新聞報道 読売新聞 2011年1月23日 「学び サイエンス」欄にて、日本の優位性が高い研究として上田潔グループの研究が紹介される

テレビ出演 BSフジ ガリレオX「加速器」最前線宇宙・物質・生命現象の謎を解く

(2011.12.11, 18)

外部機関における活動

Spring-8 助言委員会委員(2015 - 2017)

UK 4GLS project (2004~2008), International Advisory Board

UK NLS Project (2009~2010), Technical Advisory committee

Photon Science Institute, University of Manchester, UK, International Advisory Board (2006~2014)

LCLS Proposal Review Panel (2008~2010)

MPI center in CFEL Review Panel (2009~2014)

FERMI Proposal Review Panel (2011~2015)

FLASH Project Review Panel (2012~2018)

EUCALL Review Panel (2015~2018)

GSI Review Panel (2017~2018)

LCLS Proposal Review Panel (2019~present)

行政機関・記号・NPO参加

文部科学省 X 線自由電子レーザー利用推進戦略会議委員 (2011-2012)

学内活動

東北大学 光・量子ビーム科学連携推進室 専門委員会委員

東北放射光施設推進室委員

6 大学総長会議 (HeKKSaGOn), 2012, 2013, 2015, 2016, 2018, 2019, Session chair on “Dynamic Imaging in the Fields of Physics, Chemistry, and Biology”

多元研第二人事小委員・放射線障害予防委員・AMC コース委員・研究科委員

学位授与数

博士6人、修士20人、学士 (AMCコース) 3人

法務博士 (専門職) 0人、修士 (専門職) 0人、短期大学士0人、準学士0人、専門士0人

論文博士0人

担当授業科目

(全学教育)

化学B 2011年- 2012年

現代学問論 2019年

(基礎ゼミ)

2003年- 2019年 (隔年)

(AMCコース)

専門基礎化学 I 2015年- 2019年

(大学院教育)

化学反応解析特論II A 2003年- 2019年 (隔年)

業績リスト

1. Publications in English

(1979)

Original papers

1. Observations of the collision-induced dipole transitions and of a quadrupole transition for barium in krypton

T. Fujimoto, K. Ueda, and K. Fukuda

J. Quant. Spectrosc. Radiat. Transfer **21**, 89 (1979.1)

(1980)

Original papers

2. Absorption studies of the collision-induced dipole transitions (4s-3d and 4s-5d) of calcium in rare gases

K. Ueda, T. Fujimoto, and K. Fukuda

J. Phys. Soc. Jpn. **48**, 343 (1980.1)

3. Collision-induced dipole transitions associated with high-lying states of calcium in rare gases

K. Ueda, Y. Ashizawa, T. Fujimoto, and K. Fukuda

J. Phys. Soc. Jpn. **48**, 345 (1980.1)

4. Collision-induced dipole transition due to long-range interaction in calcium–xenon system

K. Ueda and K. Fukuda

J. Phys. Soc. Jpn. **48**, 1047 (1980.3)

5. Collision-induced dipole transitions associated with Rydberg states of rubidium in xenon

K. Ueda and K. Fukuda

J. Phys. Soc. Jpn. **49**, 431 (1980.7)

6. Collision-induced dipole transitions associated with high-lying states. I. Absorption studies of barium in rare gases

K. Ueda, T. Fujimoto, and K. Fukuda

J. Phys. Soc. Jpn. **49**, 1147 (1980.9)

7. Collision broadening of principal series lines of barium in the presence of krypton

K. Ueda, T. Fujimoto, and K. Fukuda

J. Phys. Soc. Jpn. **49**, 2089 (1980.11)

8. Interferometric measurement of large values of number density of metal vapor in heat pipes,

K. Ueda and K. Fukuda

Jpn. J. Appl. Phys. **19**, 2515 (1980.12)

Memoir

9. Observations of collision-induced dipole transitions associated with high-lying states of calcium

K. Ueda, Y. Ashizawa, and K. Fukuda

Mem. Fac. Eng. Kyoto Univ. **42**, 295 (1980.7)

(1981)

Original papers

10. Collision-induced dipole transition associated with high-lying states. II. Experimental and theoretical studies of calcium in rare gases

K. Ueda, Y. Ashizawa, and K. Fukuda

J. Phys. Soc. Jpn. **50**, 623 (1981.2)

11. Collision-induced dipole transitions associated with high-lying states. III. Comparison with theory for rubidium in xenon

K. Ueda, Y. Ashizawa, and K. Fukuda

J. Phys. Soc. Jpn. **50**, 1331 (1981.4)

12. Measurement of oscillator strengths for three lines among the $4s4p\ ^3P - 4p^2\ ^3P$ multiplet of Zn I

K. Ueda, H. Iimura, M. Karasawa, and K. Fukuda

J. Phys. Soc. Jpn. **50**, 3545 (1981.11)

Memoir

13. Interferometric measurement of large number density of metal vapor in the heat pipe

K. Ueda and K. Fukuda

Mem. Fac. Eng. Kyoto Univ. **43**, 10 (1981)

(1982)

Original papers

14. Collision broadening of principal series lines of calcium in the presence of krypton

K. Ueda, Y. Hamaguchi, and K. Fukuda

J. Phys. Soc. Jpn. **51**, 13 (1982.1)

15. Collision broadening of principal series lines of calcium in the presence of helium
K. Ueda, Y. Hamaguchi, and K. Fukuda
J. Phys. Soc. Jpn. **51**, 612 (1982.1)
16. Oscillator strength and rare-gas-induced broadening of the electric quadrupole transition $4s^2\ ^1S_0 - 4s3d\ ^1D_2$ in calcium
K. Fukuda and K. Ueda
J. Phys. Chem. **86**, 676 (1982.3)
17. Absorption studies of collision-induced-dipole transition associated with the $4s^2\ ^1S_0 - 4s3d\ ^1D_2$ transition in calcium in the presence of rare gases
K. Ueda and K. Fukuda
J. Phys. Chem. **86**, 678 (1982.3)
18. Measurements of oscillator strengths for the transitions from the metastable 3P levels of alkaline-earth atoms. I. Strontium
K. Ueda, Y. Ashizawa, and K. Fukuda
J. Phys. Soc. Jpn. **51**, 1936 (1982.6)
19. Absorption and dispersion studies of $4s4p\ ^3P - 4p^2\ ^3P$ multiplet of Zn I
K. Ueda, M. Karasawa, and K. Fukuda
J. Phys. Soc. Jpn. **51**, 1941 (1982.6)
20. Rare-gas-induced broadening of Ca principal series lines
K. Ueda, Y. Hamaguchi, and K. Fukuda
J. Phys. Soc. Jpn. **51**, 1948 (1982.6)
21. Measurements of oscillator strengths for the transitions from the metastable 3P levels of alkaline-earth atoms. II. Magnesium
K. Ueda, M. Karasawa, and K. Fukuda
J. Phys. Soc. Jpn. **51**, 2267 (1982.7)
22. Measurements of oscillator strengths for the transitions from metastable 3P levels of alkaline-earth atoms. III. Calcium – low- n members
K. Ueda, Y. Hamaguchi, and K. Fukuda

J. Phys. Soc. Jpn. **51**, 2973 (1982.9)

(1983)

Original papers

23. Measurements of oscillator strengths for the transitions from metastable 3P levels of alkaline-earth atoms. IV. Calcium – high-*n* members

K. Ueda, Y. Hamaguchi, and K. Fukuda

J. Phys. Soc. Jpn. **52**, 2666 (1983.8)

(1984)

Original papers

24. Oscillator strengths and rare-gas induced broadening of the principal series lines of Ba

K. Ueda, Y. Hamaguchi, T. Fujimoto, and K. Fukuda

J. Phys. Soc. Jpn. **53**, 2501 (1984.8)

(1985)

Original papers

25. Time-resolved observation of vuv radiation from laser-produced plasmas

K. Ueda, M. Sugawara, Y. Shindoh, K. Kaminishi, and T. Namioka

J. Spectrosc. Soc. Jpn. **34**, 366 (1985.1)

26. Interpretation of rare-gas-induced broadening of Rydberg series lines

K. Ueda

J. Quant. Spectrosc. Radiat. Transfer **33**, 272 (1985.1)

(1986)

Original papers

27. 6.65-m off-plane Eagle spectrograph/ monochromator at the Photon Factory

K. Ito, T. Sasaki, T. Namioka, K. Ueda, and Y. Morioka

Nucl. Instrum. Methods A **246**, 290 (1986.5)

28. Short-length large-bore metal vapor cell

K. Ueda, W. H. Hill III, and M. L. Ginter

Rev. Sci. Instrum. **57**, 888 (1986.6)

29. High-resolution spectra of laser plasma light sources in the normal incidence xuv region

F. B. Orth, K. Ueda, T. J. McIlrath, and M. L. Ginter
Appl. Opt. **25**, 2215 (1986.8)

(1987)

Original papers

30. Spectral line shapes of autoionizing Rydberg series of xenon

K. Ueda

J. Opt. Soc. Am. B **4**, 424 (1987.3)

31. Spectral line shapes of autoionizing Rydberg series

K. Ueda

Phys. Rev. A **35**, 2484 (1987.4)

32. Analysis of the J=1 odd-parity spectrum of germanium by the use of multichannel quantum-defect theory

K. Ueda

J. Opt. Soc. Am. B **4**, 648 (1987.5)

33. Spectral line shapes of autoionizing Rydberg series of Sn and Pb

K. Ueda

J. Opt. Soc. Am. B **4**, 1136 (1987.7)

34. A laser-produced-plasma vuv continuum source for use with conventional monochromators

T. Kudo, K. Kaminishi, K. Ueda, A. Arai, and T. Namioka

Phys. Scr. **35**, 483 (1987.9)

Conference papers

35. ns' autoionizing Rydberg series lines of Xe

Kiyoshi Ueda

AIP Conf. Proc. **160**, 399 (1987.9)

(1988)

Original papers

36. High-resolution absorption spectrum of Ne i in the region of 565 – 595 Å

K. Ito, K. Ueda, T. Namioka, K. Yoshino, and Y. Morioka

J. Opt. Soc. Am. B **5**, 2006 (1988.10)

(1989)

Original papers

37. Ionic fragmentation following the 3d core excitation of $\text{Sn}(\text{CH}_3)_4$ by soft X-rays

K. Ueda, E. Shigemasa, Y. Sato, S. Nagaoka, I. Koyano, A. Yagishita, T. Nagata, and T. Hayaishi
Chem. Phys. Lett. **154**, 357 (1989.1)

38. Site-specific fragmentation following inner-core level excitation of $\text{Pb}(\text{CH}_3)_4$ in the vapor phase

S. Nagaoka, I. Koyano, K. Ueda, E. Shigemasa, Y. Sato, A. Yagishita, T. Nagata, and T. Hayaishi
Chem. Phys. Lett. **154**, 363 (1989.1)

39. High-resolution measurement and quantum-defect analysis of the 8s' and 6d' autoionization resonances of krypton

K. Ueda, K. Maeda, K. Ito, and T. Namioka
J. Phys. B: At. Mol. Opt. Phys. **22**, L481 (1989.5)

40. High-resolution time-of-flight methods for studies on ionic photofragmentation of molecules

K. Ueda, E. Shigemasa, Y. Sato, A. Yagishita, T. Sasaki, and T. Hayaishi
Rev. Sci. Instrum. **60**, 2193 (1989.8)

41. Observation of collision-induced-dipole absorption bands in strontium–rare-gas mixtures. I. The 5s–4d bands

K. Ueda, T. Komatsu, and Y. Sato
J. Chem. Phys. **91**, 4495 (1989.10)

42. Observation of collision-induced-dipole absorption bands in strontium–rare-gas mixtures. II. Bands involving high-lying states

K. Ueda, T. Komatsu, and Y. Sato
J. Chem. Phys. **91**, 4499 (1989.10)

(1990)

Original papers

43. Ionic fragmentation of SiH_4 following the L-shell excitation

Y. Sato, K. Ueda, A. Yagishita, T. Sasaki, T. Nagata, T. Hayaishi, M. Yoshino, T. Koizumi, and A. A. MacDowell
Phys. Scr. **41**, 55 (1990.1)

44. Angular distribution of molecular photofragments emitted following K-Shell excitation of N₂ and O₂

E. Shigemasa, K. Ueda, Y. Sato, T. Hayaishi, H. Maezawa, T. Sasaki, and A. Yagishita
Phys. Scr. **41**, 63 (1990.1)

45. Ionic fragmentation of SiH₄ following the L-shell excitation

E. Shigemasa, K. Ueda, Y. Sato, A. Yagishita, H. Maezawa, T. Sasaki, M. Ukai, and T. Hayaishi
Phys. Scr. **41**, 67 (1990.1)

46. High-resolution absorption spectrum of atomic calcium in the vicinity of the 4p ²P_{1/2,3/2} thresholds

K. Ueda, K. Ito, Y. Sato, and T. Namioka
Phys. Scr. **41**, 75 (1990.1)

47. Ionic fragmentation following core-level photoionization of Sn(CH₃)₄ by soft x-rays

K. Ueda, E. Shigemasa, Y. Sato, S. Nagaoka, I. Koyano, A. Yagishita, and T. Hayaishi
Phys. Scr. **41**, 78 (1990.1)

48. Absorption cross sections of krypton in the photoionization threshold region

K. Maeda, K. Ueda, K. Ito, and T. Namioka
Phys. Scr. **41**, 464 (1990.1)

49. Ionic fragmentation following the photoionization of Sn(CH₃)₄ in the 60-260 eV region

K. Ueda, E. Shigemasa, Y. Sato, S. Nagaoka, I. Koyano, A. Yagishita, and T. Hayaishi
Chem. Phys. Lett. **166**, 391 (1990.3)

50. Ionic fragmentation following the 3p and 3s core excitation of Ga(CH₃)₃ by soft X-rays

K. Ueda, Y. Sato, S. Nagaoka, I. Koyano, A. Yagishita, and T. Hayaishi
Chem. Phys. Lett. **170**, 389 (1990.7)

Bulletin

51. Kinetic energy analysis of photoions with a time-of-flight method

Y. Sato, K. Ueda, and A. Yagishita

Bulletin of Res. Inst. Sci. Meas. Tohoku Univ. **39**, 45 (1990)

(1991)

Original papers

52. Observation of far-wing absorption bands of the Ba $6s^2\ ^1S_0$ - $5d6p\ ^1P_1$ line broadened by rare gases

K. Ueda, H. Sotome, and Y. Sato

J. Chem. Phys. **94**, 1903 (1991.2)

53. Observation of pair absorption and self broadening in Ba vapor

K. Ueda, H. Sotome, and Y. Sato

J. Chem. Phys. **94**, 1907 (1991.2)

54. Threshold behaviour of the multiply-charged photoion yields near the Ar K edge

K. Ueda, E. Shigemasa, Y. Sato, A. Yagishita, M. Ukai, H. Maezawa, T. Hayaishi, and T. Sasaki

J. Phys. B: At. Mol. Opt. Phys. **24**, 605 (1991.2)

55. Observation of continuum absorption spectra in far wings of the Yb resonance line broadened by

He, Ne, Ar, Kr, Xe, and Yb

K. Ueda, O. Sonobe, H. Chiba, and Y. Sato

J. Chem. Phys. **95**, 8083 (1991.12)

(1992)

Original papers

56. High-resolution measurement of Beutler-Fano profiles for autoionizing Rydberg series of Xe

K. Maeda, K. Ueda, T. Namioka, and K. Ito

Phys. Rev. A **45**, 527 (1992.2)

57. A method for determining the column density from the pressure-broadened resonance lines

K. Ueda, O. Sonobe, H. Chiba, Y. Sato, T. Namioka, and K. Ito

Rev. Sci. Instrum. **63**, 1690 (1992.3)

58. Temperature dependence of YbHe continuum emission spectra

K. Ueda, H. Chiba, and Y. Sato

Phys. Rev. A **45**, 2090 (1992.3)

59. Symmetry-resolved K-shell photoabsorption spectra of free N₂ molecules

E. Shigemasa, K. Ueda, Y. Sato, T. Sasaki, and A. Yagishita

Phys. Rev. A **45**, 2915 (1992.4)

60. Resonance-Auger-electron-photoion coincidence studies on state-to-state dissociation dynamics of inner-shell-excited BF_3

K. Ueda, H. Chiba, Y. Sato, T. Hayaishi, E. Shigemasa, and A. Yagishita

Phys. Rev. A **46**, R5 (1992.8)

61. Auger-electron-photoion and photoion-photoion coincidence studies on ionic fragmentation of SF_6 following the S L-shell excitation

Y. Sato, K. Ueda, H. Chiba, E. Shigemasa, and A. Yagishita

Chem. Phys. Lett. **196**, 475 (1992.8)

62. Blue satellite structure of the Ba resonance line broadened by rare gases

T. Maeyama, H. Ito, H. Chiba, K. Ohmori, K. Ueda, and Y. Sato

J. Chem. Phys. **97**, 9492 (1992.12)

(1993)

Original papers

63. High-resolution measurement for photoabsorption cross sections in the autoionization regions of Ar, Kr, and Xe

K. Maeda, K. Ueda, and K. Ito

J. Phys. B: At. Mol. Opt. Phys. **26**, 1541 (1993.1)

64. Stark effect for the Rydberg states of the krypton atom near the ionization threshold

K. Ito, H. Masuda, Y. Morioka, and K. Ueda

Phys. Rev. A **47**, 1187 (1993.3)

65. The L_{23} -VV Auger spectra for the PX_3 molecules: X=H, F, Cl

F. P. Larkins, E. Z. Chelkowska, Y. Sato, K. Ueda, E. Shigemasa, and A. Yagishita

J. Phys. B: At. Mol. Opt. Phys. **26**, 1479 (1993.4)

66. Measurement of the partial cross sections and asymmetry parameters in the 4p-4d giant resonance region of Sr

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P. Salén, P. van der Meulen, R. D. Thomas, H. T. Schmidt, M. Larsson, R. Feifel, M. N. Piancastelli, L. Fang, T. Osipov, B. Murphy, P. Juranic, N. Berrah, E. Kukk, K. Ueda, R. Richter, K. C. Prince, J. D. Bozek, C. Bostedt, S. Wada, M. Tashir, M. Ehara, and F. Tarantelli
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434. Competition of sequential and direct paths in two-photon ionization of He

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435. Time-resolved XUV-induced isomerization and H₃ formation in C₂H₄ cation

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438. Interatomic electronic decay following multiple ionization of rare gas dimers

K. Ueda, K. Sakai, and H. Fukuzawa

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439. Rescattering photoelectron spectroscopy on atoms and molecules in intense laser fields

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440. Compact XFEL and AMO sciences: SACLA and SCSS

M. Yabashi, H. Tanaka, T. Tanaka, H. Tomizawa, T. Togashi, M. Nagasono, T. Ishikawa, J.R. Harries, Y. Hikosaka, A. Hishikawa, K. Nagaya, N. Saito, E. Shigemasa, K. Yamanouchi, and K. Ueda

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Philip Bucksbaum, Thomas Möller, and Kiyoshi Ueda

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442. Cascade Auger decays following Si $KL_{23}L_{23}$ Auger transitions in SiF_4

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S. Mondal, R. Ma, K. Motomura, H. Fukuzawa, A. Yamada, K. Nagaya, S. Yase, Y. Mizoguchi, M. Yao, A. Rouzée, A. Hundertmark, M.J.J. Vrakking, P. Johnsson, M. Nagasono, K. Tono, T. Togashi, Y. Senba, H. Ohashi, M. Yabashi, T. Ishikawa, I. P. Sazhina, S. Fritzsche, N. M. Kabachnik, and K. Ueda

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K. Nagaya, A. Sugishima, H. Iwayama, H. Murakami, M. Yao, H. Fukuzawa, X.-J. Liu, K. Motomura, K. Ueda, N. Saito, L. Foucar, A. Rudenko, M. Kurka, K.-U. Kuhnel, J. Ullrich, A. Czasch, R. Dörner, R. Feifel, M. Nagasono, A. Higashiya, M. Yabashi, T. Ishikawa, T. Togashi, H. Kimura, and H. Ohashi,

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O. Kornilov, M. Eckstein, M. Rosenblatt, C.P. Schulz, K. Motomura, A. Rouzée, J. Klei, L. Foucar, M. Siano, A. Lübecke, F. Schapper, P. Johnsson, D.M. P. Holland, T. Schlatholter, T. Marchenko, S. Düsterer, K. Ueda, M.J. J. Vrakking, and L. J. Frasinski

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M. Larsson, P. Salén, P. van der Meulen, H. T. Schmidt, R. D. Thomas, R. Feifel, M.N. Piancastelli, L. Fang, B. Murphy, T. Osipov, N. Berrah, E. Kukk, K. Ueda, J.D. Bozek, C. Bostedt, S. Wada, R. Richter, V. Feyer, and K.C. Prince

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B. Erk, D. Rolles, L. Foucar, B. Rudek, S.W. Epp, M. Cryle, C. Bostedt, S. Schorb, J. Bozek, A. Rouzee, A. Hundertmark, T. Marchenko, M. Simon, F. Filsinger, L. Christensen, S. De, S. Trippel, J. Küpper, H. Stapelfeldt, S. Wada, K. Ueda, M. Swiggers, M. Messerschmidt, C.D. Schröter, R. Moshhammer, I. Schlichting, J. Ullrich, and A. Rudenko

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V. Zhaunerchyk, M. Mucke, P. Salén, P. vd. Meulen, M. Kaminska, R.J. Squibb, L.J. Frasinski, M. Siano, J.H.D. Eland, P. Linusson, R.D. Thomas, M. Larsson, L. Foucar, J. Ullrich, K. Motomura, S. Mondal, K. Ueda, T. Osipov, L. Fang, B.F. Murphy, N. Berrah, C. Bostedt, J.D. Bozek, S. Schorb, M. Messerschmidt, J.M. Glowina, J.P. Cryan, R. Coffee, O. Takahashi, S.Wada, M.N. Piancastelli, R. Richter, K.C. Prince, and R. Feifel

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468. Crossover in the photoionization processes of neon clusters with increasing EUV free-electron-laser intensity

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471. SACLA: new opportunities for atomic, molecular, and cluster science with XFEL

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473. Charge and energy transfer in argon-core-neon-shell clusters irradiated by free electron laser pulses at 62 nm

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T. Mazza, M. Ilchen, A.J. Rafipoor, C. Callegari, P. Finetti, O. Plekan, K.C. Prince, R. Richter, M.B. Danailov, A. Demidovich, G. De Ninno, C. Grazioli, R. Ivanov, N. Mahne, L. Raimondi, C. Svetina, L. Avaldi, P. Bolognesi, M. Coreno, P. O'Keeffe, M. Di Fraia, M. Devetta, Y. Ovcharenko, Th. Mo'ller, V. Lyamayev, F. Stienkemeier, S. Dusterer, K. Ueda, J.T. Costello, A.K. Kazansky, N.M. Kabachnik, and M. Meyer
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B.F. Murphy, T. Osipov, Z. Jurek, L. Fang, S.-K. Son, M. Mucke, J.H.D. Eland, V. Zhaunerchyk, R. Feifel, L. Avaldi, P. Bolognesi, C. Bostedt, J.D. Bozek, J. Grilj, M. Guehr, L.J. Frasinski, J. Glowonia, D.T. Ha, K. Hoffmann, E. Kukuk, B.K. McFarland, C. Miron, E. Sistrunk, R.J. Squibb, K. Ueda, R. Santra, and N. Berrah
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M. Okunishi, R.R. Lucchese, T. Morishita, and K. Ueda
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481. Recoil-induced vibrational excitation in inner-shell photoelectron spectra: Beyond the linear coupling model

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Kiyoshi Ueda

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Kiyoshi Ueda

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Roger Falcone, Michael Dunne, Henry Chapman, Makina Yabashi, and Kiyoshi Ueda

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R. Püttner and K. Ueda
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R. Alonso-Mori, K. Asa, U. Bergmann, A. S. Brewster, S. Boutet, R. Chatterjee, J. K. Cooper, H. M. Frei, F. D. Fuller, E. Goggins, S. Gul, H. Fukuzawa, D. Iablonskyi, M. Ibrahim, T. Katayama, J. Kern, T. Kroll, Y. Kumagai, M. Liang, B. A. McClure, J. Messinger, K. Motomura, K. Nagaya, T. Nishiyama, C. Saracini, Y. Sato, N. K. Sauter, R. G. Sierra, D. Sokaras, T. Takanashi, T. Togashi, K. Ueda, W. W. Weare, T.-C. Weng, M. Yabashi, V. K. Yachandra, I. D. Young, A. Zouni, and J. Yano
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K. Nagaya, D. Iablonskyi, N.V. Golubev, K. Matsunami, H. Fukuzawa, K. Motomura, T. Nishiyama, T. Sakai, T. Tachibana, S. Mondal, S. Wada, K.C. Prince, C. Callegari, C. Miron, N. Saito, M. Yabashi, Ph V. Demekhin, L.S. Cederbaum, A.I. Kuleff, M. Yao, and K. Ueda
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Conference papers

533. Femtosecond time-resolved study on nanoplasma dynamics of xenon clusters irradiated with high intensity hard X-rays at SACLA

Y. Kumagai, H. Fukuzawa, K. Motomura, D. Iablonskyi, K. Nagaya, S. Wada, Y. Ito, T. Takanashi, Y. Sakakibara, D. You, T. Nishiyama, K. Asa, Y. Sato, T. Umemoto, K. Kariyazono, E. Kukk, K. Kooser, C. Nicolas, C. Miron, T. Asavei, L. Neagu, M. Schöffler, G. Kastirke, X-J Liu, S. Owada, T. Katayama, T. Togashi, K. Tono, M. Yabashi, M. Yao, and K. Ueda
International Conference on Ultrafast Phenomena 2016, UW4A.20 (2016.7)

534. Retrieval of geometrical structure of molecules by intense NIR laser induced electron rescattering

Y. Ito, M. Okunishi, R. R. Lucchese, T. Morishita, and K. Ueda
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535. Femtosecond X-ray absorption and emission spectroscopy on ZnO nanoparticles in solution

Thomas J. Penfold, Jakub Szlachetko, Wojciech Gawelda, Fabio G. Santomauro, Alexander Britz, Tim B. van Driel, Leonardo Sala, Simon Ebner, Stephen H. Southworth, Gilles Doumy, Anne Marie March, Carl S. Lehmann, Tetsuo Katayama, Melanie Mucke, Denis Iablonskyi, Yoshiaki Kumagai, Gregor Knopp, Koji Motomura, Tadashi Togashi, Shigeki Owada, Makina Yabashi, Jochen Rittmann, Martin M. Nielsen, Marek Pajek, Kiyoshi Ueda, Majed Chergui, Rafael Abela, and Christopher J. Milne
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Highlights

536. Nanoplasma formation in rare-gas clusters ignited by intense X-ray free-electron laser pulses

from SACLA

H. Fukuzawa, T. Tachibana, and K. Ueda

Spring-8 Research Frontiers 2015, 62 (2016)

(2017)

Reviews

537. Molecular dynamics of XFEL-induced photo-dissociation, revealed by ion-ion coincidence measurements

E. Kukk, K. Motomura, H. Fukuzawa, K. Nagaya, and K. Ueda

Applied Sciences **7**, 531 (2017.5)

538. Short-wavelength free-electron laser sources and science: a review

A. Seddon, J. A. Clarke, D. J. Dunning, C. Masciovecchio, C. J. Milne, F. Parmigiani, D. Rugg, J. C.

H. Spence, N. R. Thompson, K. Ueda, S. M. Vinko, J. S. Wark, and W. Wurth

Reports on Progress in Physics **80**, 115901 (2017.11)

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539. Ion pair formation in the NeAr dimer irradiated by monochromatic soft X-rays

T. Ouchi, V. Stumpf, T. Miteva, H. Fukuzawa, K. Sakai, X.-J. Liu, T. Mazza, M. Schöffler, H.

Iwayama, K. Nagaya, Y. Tamenori, N. Saito, A.I. Kuleff, K. Gokhberg, and K. Ueda

Chem. Phys. **482**, 178 (2017.1)

540. Interatomic Coulombic decay and electron-transfer-mediated decay following triple ionization of Ne₂ and NeAr

T. Ouchi, H. Fukuzawa, K. Sakai, T. Mazza, M. Schöffler, K. Nagaya, Y. Tamenori, N. Saito, and K. Ueda

Chem. Phys. **482**, 244 (2017.1)

541. Charge transfer to ground-state ions produces free electrons

D. You, H. Fukuzawa, Y. Sakakibara, T. Takanashi, Y. Ito, G.G. Maliyar, K. Motomura, K. Nagaya,

T. Nishiyama, K. Asa, Y. Sato, N. Saito, M. Oura, M. Schöffler, G. Kastirke, U. Hergenhahn, V.

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542. Circular dichroism in multiphoton ionization of resonantly excited He⁺ ions

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Demidovich, C. Grazioli, L. Avaldi, P. Bolognesi, M. Coreno, M. Di Fraia, M. Devetta, Y. Ovcharenko, S. Düsterer, K. Ueda, K. Bartschat, A. N. Grum-Grzhimailo, A. V. Bozhevolnov, A. K. Kazansky, N. M. Kabachnik, and M. Meyer
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543. Time-resolved measurement of interatomic Coulombic decay induced by two-photon double excitation of Ne₂

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544. Photoelectron recoil in CO in the x-ray region up to 7 keV

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545. Femtosecond response of polyatomic molecules to ultra-intense hard X-rays

A. Rudenko, L. Inhester, K. Hanasaki, X. Li, S.J. Robatjazi, B. Erk, R. Boll, K. Toyota, Y. Hao, O. Vendrell, C. Bomme, E. Savelyev, B. Rudek, L. Foucar, S.H. Southworth, C.S. Lehmann, B. Kraessig, T. Marchenko, M. Simon, K. Ueda, K.R. Ferguson, M. Bucher, T. Gorkhover, S. Carron, R. Alonso-Mori, J.E. Koglin, J. Correa, G.J. Williams, S. Boutet, L. Young, C. Bostedt, S.-K. Son, R. Santra, and D. Rolles
Nature **546**, 129 (2017.6)

546. Accurate prediction of X-ray pulse properties from a free-electron laser using machine learning

Alvaro Sanchez-Gonzalez, Paul Micaelli, Charles Olivier, Thomas Barillot, Markus Ilchen, Alberto Lutman, Agostino Marinelli, Timothy Maxwell, Alexander Achner, Marcus Agåker, Nora Berrah, Christoph Bostedt, John Bozek, Jens Buck, Philip Bucksbaum, Sebastian Carron Montero, Bridgette Cooper, James Cryan, Minjie Dong, Raimund Feifel, Leszek Frasiniski, Hironobu Fukuzawa, Andreas Galler, Gregor Hartmann, Nick Hartmann, Wolfram Helml, Allan Johnson, André Knie,

Anton Lindahl, Jia Liu, Koji Motomura, Melanie Mucke, Christopher O'Grady, Jan-Erik Rubensson, Emma Simpson, Richard Squibb, Conny Sâthe, Kiyoshi Ueda, Morgane Vacher, Daniel Walke, Vitali Zhaunerchyk, Ryan Coffee, and Jonathan Marangos
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547. Application of matched-filter concepts to unbiased selection of data in pump-probe experiments with free electron lasers

C. Callegari, T. Takanashi, H. Fukuzawa, K. Motomura, D. Iablonskyi, Y. Kumagai, S. Mondal, T. Tachibana, K. Nagaya, T. Nishiyama, K. Matsunami, P. Johnsson, P. Piseri, G. Sansone, A. Dubrouil, M. Reduzzi, P. Carpegiani, C. Vozzi, M. Devetta, D. Faccialà, F. Calegari, M. C. Castrovilli, M. Coreno, M. Alagia, B. Schütte, N. Berrah, O. Plekan, P. Finetti, E. Ferrari, K. C. Prince, and K. Ueda
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548. Observation of enhanced chiral asymmetries in the inner-shell photoionization of uniaxially oriented methyloxirane enantiomers

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549. Observation and control of laser-enabled Auger decay

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550. Ultrafast Coulomb explosion of the diiodomethane molecule induced by an X-ray free-electron laser pulse

Tsukasa Takanashi, Kosuke Nakamura, Edwin Kukk, Koji Motomura, Hironobu Fukuzawa, Kiyonobu Nagaya, Shin-ichi Wada, Yoshiaki Kumagai, Denys Iablonskyi, Yuta Ito, Yuta Sakakibara, Daehyun You, Toshiyuki Nishiyama, Kazuki Asa, Yuhiro Sato, Takayuki Umemoto,

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551. Time zero determination for FEL pump-probe studies based on ultrafast melting of bismuth
S.W. Epp, M. Hada, Y. Zhong, Y. Kumagai, K. Motomura, S. Mizote, T. Ono, S. Owada, D. Axford, S. Bakhtiarzadeh, H. Fukuzawa, Y. Hayashi, T. Katayama, A. Marx, H.M. Müller-Werkmeister, R.L. Owen, D.A. Sherrell, K. Tono, K. Ueda, F. Westermeier, and R.J.D. Miller
Structural Dynamics **4**, 054308 (2017.9)

552. Multi-wavelength anomalous diffraction de novo phasing using a two-colour X-ray free-electron laser with wide tunability
Alexander Gorel, Koji Motomura, Hironobu Fukuzawa, R. Bruce Doak, Marie Luise Grünbein, Mario Hilpert, Ichiro Inoue, Marco Kloos, Gabriela Kováčsová, Eriko Nango, Karol Nass, Christopher M. Roome, Robert L. Shoeman, Rie Tanaka, Kensuke Tono, Yasumasa Joti, Makina Yabashi, So Iwata, Lutz Foucar, Kiyoshi Ueda, Thomas R.M. Barends, and Ilme Schlichting
Nature Communications **8**, 1170 (2017.10)

553. Extraction of geometrical structure of ethylene molecules by laser-induced electron diffraction combined with ab initio scattering calculations
Yuta Ito, Richard Carranza, Misaki Okunishi, Robert R. Lucchese, and Kiyoshi Ueda
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554. Two-colour serial femtosecond crystallography dataset from gadoteridol-derivatized lysozyme for MAD phasing
A. Gorel, K. Motomura, H. Fukuzawa, R. B. Doak, M. L. Grünbein, M. Hilpert, I. Inoue, M. Kloos, G. N. Kováčsová, E. Nango, K. Nass, C. M. Roome, R. L. Shoeman, R. Tanaka, K. Tono, L. Foucar, Y. Joti, M. Yabashi, S. Iwata, K. Ueda, T. R. M. Barends, and I. Schlichting
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Maximilian Bucher, Phay Ho, Ken R. Ferguson, Tais Gorkhover, Agostino Marinelli, Daniela Rupp,

O. Gessner, A. Vilesov, D. Rolles, Artem Rudenko, Kiyonobu Nagaya, Yoshiaki Kumagai, Kiyoshi Ueda, Linda Young, Thomas Möller, and Christoph Bostedt

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556. Photoionization of polarized Ne II in the region of autoionizing states

E.V. Gryzlova, A.N. Grum-Grzhimailo, S.I. Strakhova, S.M. Burkov, K. Ueda, M. Meyer, and G. Sansone

J. Phys.: Conf. Ser. **875**, 022009 (2017.7)

557. Circular dichroism in the multi-photon ionization of oriented helium ions

M. Ilchen, N. Douguet, T. Mazza, A. J. Rafipoor, C. Callegari, P. Finetti, O. Plekan, K. C. Prince, A. Demidovich, C. Grazioli, L. Avaldi, P. Bolognesi, M. Coreno, M. Di Fraia, M. Devetta, Y. Ovcharenko, S. Düsterer, K. Ueda, K. Bartschat, A. N. Grum-Grzhimailo, A. V. Bozhevolnov, A. K. Kazansky, N. M. Kabachnik, and M. Meyer

J. Phys.: Conf. Ser. **875**, 022029 (2017.7)

558. Evidence for efficient pathway to produce slow electrons by ground-state dication in clusters

Daehyun You, Hironobu Fukuzawa, Yuta Sakakibara, Tsukasa Takanashi, Yuta Ito, Gianluigi G. Maliyar, Koji Motomura, Kiyonobu Nagaya, Toshiyuki Nishiyama, Kazuki Asa, Yuhiro Sato, Norio Saito, Masaki Oura, Markus Schöffler, Gregor Kastirke, Uwe Hergenhahn, Vasili Stumpf, Kirill Gohkberg, Alexander I. Kuleff, Lorenz S. Cederbaum, and Kiyoshi Ueda

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Highlights

559. Ultrafast dynamics of a nucleobase analogue illuminated by an ultrashort intense X-ray pulse of SACLA

K. Nagaya, H. Kono, and K. Ueda

SPRING-8 Research Frontiers 2016, 84 (2017)

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Reviews

560. Roadmap of ultrafast x-ray atomic and molecular physics

Linda Young, Kiyoshi Ueda, Markus Gühr, Philip H Bucksbaum, Marc Simon, Shaul Mukamel, Nina Rohringer, Kevin C Prince, Claudio Masciovecchio, Michael Meyer, Artem Rudenko, Daniel Rolles, Christoph Bostedt, Matthias Fuchs, David A Reis, Robin Santra, Henry Kapteyn, Margaret

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561. Advances in instrumentation for gas-phase spectroscopy and diffraction with short-wavelength free electron lasers

Hironobu Fukuzawa, Kiyonobu Nagaya, and Kiyoshi Ueda
Nuclear Instrum. Methods A **907**, 116–131 (2018.11)

Editorial

562. X-ray free-electron laser
Kiyoshi Ueda
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Original papers

563. Changes in site-specific shape resonances in nitrogen K-shell photoionization of N₂O induced by vibrational excitation

M. Hoshino, H. Kato, N. Kuze, H. Tanaka, H. Fukuzawa, K. Ueda, and R.R. Lucchese
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Yoshiaki Kumagai, Zoltan Jurek, Weiqing Xu, Hironobu Fukuzawa, Koji Motomura, Denys Iablonskyi, Kiyonobu Nagaya, Shin-ichi Wada, Subhendu Mondal, Tetsuya Tachibana, Yuta Ito, Tsukasa Sakai, Kenji Matsunami, Toshiyuki Nishiyama, Takayuki Umemoto, Christophe Nicolas, Catalin Miron, Tadashi Togashi, Kanade Ogawa, Shigeki Owada, Kensuke Tono, Makina Yabashi, Sang-Kil Son, Beata Ziaja, Robin Santra, and Kiyoshi Ueda
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Yuta Ito, Misaki Okunishi, Toru Morishita, Oleg I. Tolstikhin, and Kiyoshi Ueda
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566. Coherent control schemes for the photoionization of neon and helium in the extreme ultraviolet spectral region

Luca Giannessi, Enrico Allaria, Kevin C. Prince, Carlo Callegari, Giuseppe Sansone, Kiyoshi Ueda,

Toru Morishita, Chien Nan Liu, Alexei N. Grum-Grzhimailo, Elena V. Gryzlova, Nicolas Douguet, and Klaus Bartschat

Scientific Reports **8**, 7774 (2018.5)

567. Following the birth of a nanoplasma produced by an ultrashort hard-X-ray laser in xenon clusters

Yoshiaki Kumagai, Hironobu Fukuzawa, Koji Motomura, Denys Iablonskyi, Kiyonobu Nagaya, Shin-ichi Wada, Yuta Ito, Tsukasa Takanashi, Yuta Sakakibara, Daehyun You, Toshiyuki Nishiyama, Kazuki Asa, Yuhiro Sato, Takayuki Umemoto, Kango Kariyazono, Edwin Kukk, Kuno Kooser, Christophe Nicolas, Catalin Miron, Theodor Asavei, Liviu Neagu, Markus S. Schöffler, Gregor Kastirke, Xiao-jing Liu, Shigeki Owada, Tetsuo Katayama, Tadashi Togashi, Kensuke Tono, Makina Yabashi, Nikolay V. Golubev, Kirill Gokhberg, Lorenz S. Cederbaum, Alexander I. Kuleff, and Kiyoshi Ueda

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568. Energy transfer into molecular vibrations and rotations by recoil in inner-shell photoemission

E. Kukk, T. D. Thomas, D. Céolin, S. Granroth, O. Travnikova, M. Berholts, T. Marchenko, R. Guillemin, L. Journal, I. Ismail, R. Püttner, M. N. Piancastelli, K. Ueda, and M. Simon

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569. Crystallography on a chip – without the chip: sheet-on-sheet sandwich

R. Bruce Doak, Gabriela Nass Kovacs, Alexander Gorel, Lutz Foucar, Thomas R. M. Barends, Marie Luise Grunbein, Mario Hilpert, Marco Kloos, Christopher M. Roome, Robert L. Shoeman, Miriam Stricker, Kensuke Tono, Daehyun You, Kiyoshi Ueda, Darren A. Sherrell, Robin L. Owen, and Ilme Schlichting

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570. Relativistic and resonant effects in the ionization of heavy atoms by ultra-intense hard X-rays

Benedikt Rudek, Koudai Toyota, Lutz Foucar, Benjamin Erk, Rebecca Boll, Cedric Bomme, Jonathan Correa, Sebastian Carron, Sebastien Boutet, Garth J. Williams, Ken R. Ferguson, Roberto Alonso-Mori, Jason E. Koglin, Tais Gorkhover, Maximilian Bucher, Carl Stefan Lehmann, Bertold Krässig, Stephen H. Southworth, Linda Young, Christoph Bostedt, Kiyoshi Ueda, Tatiana Marchenko, Marc Simon, Zoltan Jurek, Robin Santra, Artem Rudenko, Sang-Kil Son, and Daniel Rolles

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B. Langbehn, K. Sander, Y. Ovcharenko, C. Peltz, A. Clark, M. Coreno, R. Cucini, M. Drabbels, P. Finetti, M. Di Fraia, L. Giannessi, C. Grazioli, D. Iablonskyi, A. LaForge, T. Nishiyama, V.O.Al. de Lara, P. Piseri, O. Plekan, K. Ueda, J. Zimmermann, K.C. Prince, F. Stienkemeier, C. Callegari, T. Fennel, D. Rupp, and T. Möller
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Highlights

572. Charge transfer to ground-state ions in Ne-Kr mixed clusters producing slow electrons

D. You, H. Fukuzawa, and K. Ueda
Spring-8/SACLA Research Frontiers 2017 48 (2018)

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Reviews

573. Roadmap on photonic, electronic and atomic collision physics I. Light-matter interaction

Kiyoshi Ueda, Emma Sokell, Stefan Schippers, Friedrich Aumayr, Hossein Sadeghpour, Joachim Burgdörfer, Christoph Lemell, Xiao-Min Tong, Thomas Pfeifer, Francesca Calegari, Alicia Palacios, Fernando Martin, Paul Corkum, Giuseppe Sansone, Elena Gryzlova, Alexei N. Grum-Grzhimailo, Maria Novella Piancastelli, Peter Weber, Tobias Steinle, Kasra Amini, Jens Biegert, Nora Berrah, Edwin Kukk, Robin Santra, Alfred Müller, Danielle Doweck, Robert Lucchese, Bill McCurdy, Paola Bolognesi, Lorenzo Avaldi, Till Jahnke, Markus S. Schöffler, Reinhard Dörner, Yann Mairesse, Laurent Nahon, Olga Smirnova, Thomas Schlathölter, Eleanor E. B. Campbell, Jan-Michael Rost, Michael Meyer, and Kazuo A. Tanaka
J. Phys. B: At. Mol Opt. Phys. **52**, 171001 (2019.7)

574. Roadmap on photonic, electronic and atomic collision physics II. Electron and Antimatter interactions

Stefan Schippers, Emma Sokell, Friedrich Aumayr, Hossein Sadeghpour, Kiyoshi Ueda, Igor Bray, Klaus Bartschat, Andrew Murray, J Tennyson, Alexander Dorn, Masakazu Yamazaki, Masahiko Takahashi, Nigel Mason, Oldrich Novotny, Andreas Wolf, Leon Sanche, Martin Centurion, Yasunori Yamazaki, Gaetana Laricchia, Cliff Surko, James Sullivan, Gleb Gribakin, Daniel Savin, Yuri Ralchenko, Ronnie Hoekstra, and Gerry O'Sullivan
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575. Roadmap on photonic, electronic and atomic collision physics III. Heavy particles: with zero to relativistic speeds

Friedrich Aumayr, Kiyoshi Ueda, Emma Sokell, Stefan Schippers, Hossein Sadeghpour, Frédéric Merkt, Tom Gallagher, Barry Dunning, Paul Scheier, Olof Echt, Tom Kirchner, Stephan Fritzsche, Andrey Surzhykov, Xinwen Ma, Roberto Rivarola, Omar Fojon, Lokesh Tribedi, Emily Lamour, Jose Crespo López-Urrutia, Yuri Litvinov, Vladimir Shabaev, Henrik Cederquist, Henning Zettergren, Marika Schleberger, Richard Wilhelm, Toshiyuki Azuma, Philippe Boduch, Henning T. Schmidt, and Thomas Stöhlker
J. Phys. B: At. Mol Opt. Phys. **52**, 171003 (2019.7)

576. Ultrafast dynamics in atoms, molecules, and clusters induced by an XFEL pulse
H. Fukuzawa and K. Ueda
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Original papers

577. Complete reconstruction of bound and unbound electronic wave functions in two-photon double ionisation

P. A. Carpeggiani, E. V. Gryzlova, M. Reduzzi, A. Dubrouil, D. Facciala, M. Negro, K. Ueda, M. Burkov, F. Frassetto, F. Stienkemeier, Y. Ovcharenko, M. Meyer, O. Plekan, P. Finetti, K. C. Prince, C. Callegari, A. N. Grum-Grzhimailo, and G. Sansone
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578. Coulomb implosion of tetrabromothiophene observed under multiphoton ionization by free-electron-laser soft-x-ray pulses

E. Kukk, H. Myllynen, K. Nagaya, S. Wada, J. D. Bozek, T. Takanashi, D. You, A. Niozu, K. Kooser, T. Gaumnitz, E. Pelimanni, M. Berholts, S. Granroth, N. Yokono, H. Fukuzawa, C. Miron, and K. Ueda
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579. Low-energy electron productions after 2p ionization of argon clusters

Hironobu Fukuzawa, Yiwen Li, Daehyun You, Yuta Sakakibara, Syuhei Yamada, Yuta Ito, Tsukasa Takanashi, Masaki Oura, Norio Saito, and Kiyoshi Ueda
Phys. Rev. A **99**, 042505 (2019.4)

580. Si $1s^{-1}$, $2s^{-1}$ and $2p^{-1}$ lifetime broadening of SiX_4 ($X = \text{F}, \text{Cl}, \text{Br}, \text{CH}_3$) molecules: SiF_4 anomalous behaviour

Ralph Püttner, Tatiana Marchenko, Renaud Guillemin, Loïc Journal, Gildas Goldsztejn, Denis Céolin, Osamu Takahashi, Kiyoshi Ueda, Alexandre F. Lago, Maria Novella Piancastelli, and Marc

Simon

Phys. Chem. Chem. Phys. **21**, 8827 (2019.4)

581. Probing molecular bond-length using molecular-frame photoelectron angular distributions

Hironobu Fukuzawa, Robert R. Lucchese, Xiao-Jing Liu, Kentaro Sakai, Hiroshi Iwayama, Kiyonobu Nagaya, Katharina Kreidi, Markus S. Schöffler, James R. Harries, Yusuke Tamenori, Yuichiro Morishita, Isao H. Suzuki, Norio Saito, and Kiyoshi Ueda

J. Chem. Phys. **150**, 174306 (2019.5)

582. Real-time observation of X-ray-induced intramolecular and interatomic electronic decay in CH_2I_2

Hironobu Fukuzawa, Tsukasa Takanashi, Edwin Kukk, Koji Motomura, Shin-ichi Wada, Kiyonobu Nagaya, Yuta Ito, Toshiyuki Nishiyama, Christophe Nicolas, Yoshiaki Kumagai, Denys Iablonskyi, Subhendu Mondal, Tetsuya Tachibana, Daehyun You, Syuhei Yamada, Yuta Sakakibara, Kazuki Asa, Yuhiro Sato, Tsukasa Sakai, Kenji Matsunami, Takayuki Umemoto, Kango Kariyazono, Shinji Kajimoto, Hikaru Sotome, Per Johnsson, Markus S. Schöffler, Gregor Kastirke, Kuno Kooser, Xiao-Jing Liu, Theodor Asavei, Liviu Neagu, Serguei Molodtsov, Kohei Ochiai, Manabu Kanno, Kaoru Yamazaki, Shigeki Owada, Kanade Ogawa, Tetsuo Katayama, Tadashi Togashi, Kensuke Tono, Makina Yabashi, Aryya Ghosh, Kirill Gokhberg, Lorenz S. Cederbaum, Alexander I. Kuleff, Hiroshi Fukumura, Naoki Kishimoto, Artem Rudenko, Catalin Miron, Hirohiko Kono, and Kiyoshi Ueda

Nature Communications **10**, 2186 (2019.5)

583. Molecular Auger interferometry

M.A. Khokhlova, B. Cooper, K. Ueda, K.C. Prince, P. Koloren, M.Yu. Ivanov, and V. Averbukh
Phys. Rev. Lett. **122**, 233001 (2019.6)

584. Deep neural networks for classifying complex features in diffraction images

Julian Zimmermann, Bruno Langbehn, Riccardo Cucini, Michele Di Fraia, Paola Finetti, Aaron C. LaForge, Toshiyuki Nishiyama, Yevheniy Ovcharenko, Paolo Piseri, Oksana Plekan, Kevin C. Prince, Frank Stienkemeier, Kiyoshi Ueda, Carlo Callegari, Thomas Möller, and Daniela Rupp
Phys. Rev. E **99**, 063309 (2019.6)

585. xcalib: a focal spot calibrator for intense X-ray free-electron laser pulses based on the charge state distributions of light atoms

Koudai Toyota, Zoltan Jurek, Sang-Kil Son, Hironobu Fukuzawa, Kiyoshi Ueda, Nora Berrah,

Benedikt Rudek, Daniel Rolles, Artem Rudenko and Robin Santra

J. Sync. Rad. **26**, 1017 (2019.7)

586. Probing gaseous molecular structure by molecular-frame photoelectron angular distributions

Hironobu Fukuzawa, Syuhei Yamada, Yuta Sakakibara, T. Tachibana, Yuta Ito, Tsukasa Takanashi, Toshiyuki Nishiyama, Tsukasa Sakai, Kiyonobu Nagaya, Norio Saito, Masaki Oura, Mauro Stener, Piero Decleva, and Kiyoshi Ueda

J. Chem. Phys. **151**, 104302 (2019.9)

587. Photo-ionization and fragmentation of $\text{Sc}_3\text{N}@C_{80}$ following excitation above the Sc K-edge

Razib Obaid, Kirsten Schnorr, Thomas J. A. Wolf, Tsukasa Takanashi, Nora G. Kling, Kuno Kooser, Kiyonobu Nagaya, Shin-ichi Wada, Li Fang, Sven Augustin, Daehyun You, Eleanor E. B. Campbell, Hironobu Fukuzawa, Claus-Peter Schulz, Kiyoshi Ueda, Pascal Lablanquie, Thomas Pfeifer, Edwin Kukk, and Nora Berrah

J. Chem. Phys. **151**, 104308 (2019.9)

588. Capturing the photo-induced dynamics of nano-molecules by X-ray free electron laser induced Coulomb explosion

Kaoru Yamazaki, Naoyuki Niitsu, Manabu Kanno, Kiyoshi Ueda, and Hirohiko Kono

J. Chem. Phys. **151**, 124305 (2019.9)

589. Ultrafast structural dynamics of nanoparticles in intense laser fields

Toshiyuki Nishiyama, Yoshiaki Kumagai, Akinobu Niozu, Hironobu Fukuzawa, Koji Motomura, Max Bucher, Yuta Ito, Tsukasa Takanashi, Kazuki Asa, Yuhiro Sato, Daehyun You, Yiwen Li, Taishi Ono, Edwin Kukk, Catalin Miron, Liviu Neagu, Carlo Callegari, Michele Di Fraia, Giorgio Rossi, Davide E. Galli, Tommaso Pincelli, Alessandro Colombo, Takashi Kameshima, Yasumasa Joti, Takaki Hatsui, Shigeki Owada, Tetsuo Katayama, Tadashi Togashi, ensuke Tono, Makina abashi, Kazuhiro Matsuda, Christoph Bostedt, Kiyonobu Nagaya, and Kiyoshi Ueda

Phys. Rev. Lett. **123**, 123201 (2019.9)

590. Femtosecond-resolved observation of the fragmentation of buckminsterfullerene following X-ray multiphoton ionization

Nora Berrah, Alvaro Sanchez-Gonzalez, Zoltan Jurek, Razib Obaid, Hui Xiong, Richard Squibb, Timur Osipov, Alberto Lutman, Li Fang, Thomas Barillot, John Bozek, James Cryan, Thomas Wolf, Daniel Rolles, Ryan Coffee, Kirsten Schnorr, Sven Augustin, Hironobu Fukuzawa, Koji Motomura, Mario Niebuhr, Leszek Frasinski, Raimund Feifel, Claus Peter Schulz, Koudai Toyota, Sang-Kil Son,

Kyoshi Ueda, Thomas Pfeifer, Jonathan Marangos, and Robin Santra
Nature Physics **15**, 1279 (2019.9)

591. Full-dimensional theoretical description of vibrationally resolved valence-shell photoionization of H₂O

Selma Engin, Jesús González-Vázquez, Gianluigi Grimaldi Maliyar, Aleksandar R. Milosavljević, Taishi Ono, Saikat Nandi, Denys Iablonskyi, Kuno Kooser, John D. Bozek, Piero Decleva, Edwin Kukk, Kiyoshi Ueda, and Fernando Martín
Structural Dynamics **6**, 054101 (2019.9)

592. Electron spectroscopic study of nanoplasma formation triggered by intense soft x-ray pulses

Akinobu Niozu, Naomichi Yokono, Toshiyuki Nishiyama, Tomohiro Sakurazawa, Kazuhiro Matsuda, Hironobu Hukuzawa, Tsukasa Takanashi, Daehyun You, Yiwen Li, Taishi Ono, Thomas Gaumnitz, Marcus Schöffler, Sven Grundmann, Shin-ichi Wada, Paolo Carpeggiani, Wei Qing Xu, Xiao Jing Liu, Sigeki Owada, Kensuke Tono, Tadashi Togashi, Makina Yabashi, Nikolai Kryzhevoi, Kirill Gokhberg, Alexander Kuleff, Lorenz Cederbaum, Kiyoshi Ueda, and Kiyonobu Nagaya
J. Chem. Phys. **151**, 184305 (2019.11)

593. Complete characterization of phase and amplitude of bichromatic extreme ultraviolet light

Michele Di Fraia, Oksana Plekan, Carlo Callegari, Kevin C. Prince, Luca Giannessi, Enrico Allaria, Laura Badano, Giovanni De Ninno, Mauro Trovò, Bruno Diviacco, David Gauthier, Najmeh Mirian, Giuseppe Penco, Primož Rebernik Ribič, Simone Spampinati, Carlo Spezzani, Giulio Gaio, Yuki Orimo, Oyunbileg Tugs, Takeshi Sato, Kenichi L. Ishikawa, Paolo Antonio Carpeggiani, Tamás Csizmadia, Mikloós Füle, Giuseppe Sansone, Praveen Kumar Maroju, Alessandro D'Elia, Tommaso Mazza, Michael Meyer, Elena V. Gryzlova, Alexei N. Grum-Grzhimailo, Daehyun You, and Kiyoshi Ueda
Phys. Rev. Lett. **123**, 213904 (2019.11)

594. A detailed investigation of single-photon laser enabled Auger decay in neon

Daehyun You, Kiyoshi Ueda, Marco Ruberti, Kenichi L. Ishikawa, Paolo Antonio Carpeggiani, Tamás Csizmadia, Lénárd Gulyás Oldal, Harshitha N. G., Giuseppe Sansone, Praveen Kumar Maroju, Kuno Kooser, Carlo Callegari, Michele Di Fraia, Oksana Plekan, Luca Giannessi, Enrico Allaria, Giovanni De Ninno, Mauro Trovò, Laura Badano, Bruno Diviacco, David Gauthier, Najmeh Mirian, Giuseppe Penco, P Primož Rebernik Ribič, Simone Spampinati, Carlo Spezzani, Simone Di Mitri, Giulio Gaio, and Kevin C. Prince
New J. Phys **21**, 113036 (2019.11)

595. Rescattering photoelectron spectroscopy of the CO₂ molecule: Progress towards experimental discrimination between theoretical target-structure models

Misaki Okunishi, Yuta Ito, Vandana Sharma, Shejuty Aktar, Kiyoshi Ueda, Robert R. Lucchese, Andrey I. Dnestryan, Oleg I. Tolstikhin, Shunsuke Inoue, Hirokazu Matsui, and Toru Morishita
Phys. Rev. A **100**, 053404 (2019.11)

596. Multispectroscopic study of single Xe clusters using XFEL pulses

Toshiyuki Nishiyama, Christoph Bostedt, Ken R. Ferguson, Christopher Hutchison, Kiyonobu Nagaya, Hironobu Fukuzawa, Koji Motomura, Shin-ichi Wada, Tsukasa Sakai, Kenji Matsunami, Kazuhiro Matsuda, Tetsuya Tachibana, Yuta Ito, Weiqing Xu, Subhendu Mondal, Takayuki Umemoto, Catalin Miron, Christophe Nicolas, Takashi Kameshima, Yasumasa Joti, Kensuke Tono, Takaki Hatsui, Makina Yabashi, and Kiyoshi Ueda
Applied Sciences **9**, 4932 (2019.11)

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Original papers

597. Multi-particle momentum correlations extracted using covariance methods on multiple-ionization of di-iodomethane molecules by soft-X-ray free-electron laser pulses

Daehyun You, Hironobu Fukuzawa, Yu Luo, Shu Saito, Marta Berholts, Thomas Gaumnitz, Marko Huttula, Per Johnsson, Naoki Kishimoto, Hanna Myllynen, Ahmad Nemer, Akinobu Niozu, Minna Patanen, Eetu Pelimanni, Tsukasa Takanashi, Shin-ichi Wada, Naomichi Yokono, Shigeki Owada, Kensuke Tono, Makina Yabashi, Kiyonobu Nagay, Edwin Kuk, and Kiyoshi Ueda
Phys. Chem. Chem. Phys. **22**, 2648 (2020) (published online on 16 August 2019)

598. Refinement for single-nanoparticle structure determination from low-quality single-shot coherent diffraction data

Toshiyuki Nishiyama, Akinobu Niozu, Christoph Bostedt, Ken R. Ferguson, Yuhiro Sato, Christopher Hutchison, Kiyonobu Nagaya, Hironobu Fukuzawa, Koji Motomura, Shin-ichi Wada, Tsukasa Sakai, Kenji Matsunami, Kazuhiro Matsuda, Tetsuya Tachibana, Yuta Ito, Weiqing Xu, Subhendu Mondal, Takayuki Umemoto, Christophe Nicolas, Catalin Miron, Takashi Kameshima, Yasumasa Joti, Kensuke Tono, Takaki Hatsui, Makina Yabashi, and Kiyoshi Ueda
IUCrJ **7**, 10 (2020.1)

599. Real-time observation of disintegration processes within argon clusters ionized by a hard-x-ray pulse of moderate fluence

Yoshiaki Kumagai, Zoltan Jurek, Weiqing Xu, Hironobu Fukuzawa, Koji M Kiyonobu Nagaya, Shin-ichi Wada, Subhendu Mondal, Tetsuya Tachibana, Y Kenji Matsunami, Toshiyuki Nishiyama, Takayuki Umemoto, Christophe Nicola, Tadashi Togashi, Kanade Ogawa, Shigeki Owada, Kensuke Tono, Makina Yab, Beata Ziaja, Robin Santra, and Kiyoshi Ueda
Physical Review A **101**, 023412 (2020.2)

600. Attosecond pulse-shaping using a seeded free electron laser
Praveen Kumar, Cesare Grazioli, Michele Di Fraia, Matteo Moioli, Dominik Ertel, Hamed Ahmadi, Oksana Plekan, Paola Finetti, Enrico Allaria, Luca Giannessi, Giovanni De Ninno, Carlo Spezzani, Giuseppe Penco, Alexander Demidovich, Miltcho Danailov, Roberto Borghes, Georgios Kourousias, Carlos Eduardo Sanches Dos Reis, Richard Squibb, Raimund Feife, Paolo Carpeggiani, Maurizio Reduzzi, Tommaso Mazza, Michael Meyer, Samuel Bengtsson, Neven Ibrakovic, Emma Rose Simpson, Johan Mauritsson, Tamás Csizmadia, Mathieu Dumergue, Sergei Kühn, Harshitha N.G., Daehyun You, Kiyoshi Ueda, Elena V. Gryzlova, Alexei N. Grum-Grzhimailo, Kevin Charles Prince, Carlo Callegari, and Giuseppe Sansone
Nature **578**, 386 (2020.2)

601. The Magnitude and Waveform of Shock Waves Induced by X-ray Lasers in Water
Claudiu Andrei Stan, Koji Motomura, Gabriel Blaj, Yoshiaki Kumagai, Yiwen Li, Daehyun You, Taishi Ono, Armin Kalita, Tadashi Togashi, Shigeki Owada, Kensuke Tono, Makina Yabashi, Tetsuo Katayama, and Kiyoshi Ueda
Applied Sciences **10**, 1497 (2020.2)

602. Characterizing crystalline defects in single nanoparticles from angular correlations of single-shot diffracted X-rays
Akinobu Niozu, Yoshiaki Kumagai, Toshiyuki Nishiyama, Hironobu, Fukuzawa, Koji Motomura, Max Bucher, Kazuki Asa, Yuhiro Sato, Yuta Ito, Tsukasa Takanashi, Daehyun You, Taishi Ono, Yiwen Li, Edwin Kukk, Catalin Miron, Liviu Neagu, Carlo Callegari, Michele Di Fraia, Giorgio Rossi, Davide E. Galli, Tommaso Pincelli, Alessandro Colombo, Shigeki Owada, Kensuke Tono, Takashi Kameshima, Yasumasa Joti, Tetsuo Katayama, Tadashi Togashi, Makina Yabashi, Kazuhiro Matsuda, Kiyonobu Nagaya, Christoph Bostedt, and Kiyoshi Ueda
IUCrJ **7**, 276 (2020.3)

2. 和文リスト

(1988)

和文解説

1. 内殻励起分子の解離のダイナミクス: SiH_4 と $\text{Sn}(\text{CH}_3)_4$ の場合
上田潔, 佐藤幸紀
放射光第1巻 第1号1 (1988)

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和文原著論文

2. 金属蒸気の精密分散・吸収分光法—衝突誘起吸収の測定への応用—
上田潔, 佐藤幸紀
分光研究 38, 28 (1989)

(1991)

和文解説

3. SOR 光による原子分子の VUV 分光
上田潔
レーザー研究 第19巻 1089 (1991)

和文原著論文

4. ゲート付きマルチチャンネル検出器を用いた衝突準分子連続発光スペクトル観測システム
上田潔, 千葉寿, 佐藤幸紀
分光研究 第40巻 348 (1991)

(1996)

和文解説

5. 電子分光による分子の励起状態の研究— 共鳴と LUMO, HOMO—
田中大, 上田潔, 井口道生
分光研究 (解説と総説) 第45巻 267 (1996.1)

(1999)

和文解説

6. 見えてきた内殻励起状態での原子移動
田中智, 萱沼洋輔, 上田潔
日本物理学会誌 (解説) 第54巻 18 (1999.1)

(2000)

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7. 内殻励起分子の電子緩和と解離のダイナミクス— BCl_3 における B 1s 励起の場合

上田 潔, 清水雄一郎, 村松陽子

放射光 (トピックス) 第 13 巻 第 2 号 171 (2000.2)

(2003)

和文解説

8. SPring-8 軟 X 線ビームラインにおける気相原子分子の高分解能内殻分光

上田 潔

放射光 (トピックス) 第 16 巻 第 4 号 224 (2003.4)

(2004)

書籍 (執筆分担)

9. 放射光科学入門 (渡辺誠・佐藤繁編)

6. 気体の真空紫外・軟 X 線分光 p. 130

上田 潔

東北大学出版会 (2004.3)

(2005)

書籍 (執筆分担)

10. 実験化学講座 10 物質の構造 II 分光 下

5.2 二次元画像測 p. 343

斉藤則生, 上田 潔

日本化学会編, 丸善 (2005.8)

11. 実験化学講座 10 物質の構造 II 分光 下

5.3 同時計測 p.362

上田 潔, 斉藤則生

日本化学会編, 丸善 (2005.8)

(2007)

和文解説

12. 電子・イオン多重同時運動量計測法を用いたクラスターの原子間クーロン脱励起の観測
(Interatomic Coulombic Decay from clusters using an electron-ion multiple momentum coincidence)

齋藤 則生, 森下 雄一郎, 鈴木 功, Xiao-Jing Liu, 上田 潔

(N. Saito, Y. Morishita, I. H. Suzuki, X.-J. Liu, K. Ueda)

放射光第 20 卷 第 1 号 33 (2007.1)

(2012)

和文解説

13. X 線自由電子レーザーを用いた原子・分子研究：現状と将来

上田 潔

オプトロニクス **31 (8)**, 94 (2012.8)

14. 部分配向した 2 原子分子のレーザー誘起再散乱電子分光による電子・イオン微分散乱断面積の抽出

奥西みさき、上田潔

レーザー研究 **40**, 774 (2012.10)

(2013)

和文解説

15. X 線自由電子レーザー-SACLA で見る原子分子の世界

上田 潔

ISOTOPE NEWS **11 (715)**, 2 (2013.11)

16. 極紫外 FEL 光による希ガスクラスターの多光子イオン化と脱励起

永谷 清信, 福澤 宏宣, 上田 潔, 八尾 誠

しょうとつ **10 (4)**, 81 (2013.7)

17. XFEL による希ガス原子の段階的多光子多重イオン化

福澤 宏宣, 本村 幸治, 永谷 清信, 和田 真一, 八尾 誠, 上田 潔

放射線化学 **96**, 37 (2013.9)

(2014)

書籍 (共同執筆)

18. CSJ カレントレビュー 放射光が拓く化学の現在と未来: 物質科学にイノベーションをもたらす光, 将来への展開: コヒーレント光科学

SACLA で見えてくる原子・分子の世界 p.140

上田 潔

日本化学会編 化学同人 (2014.1)

和文原著論文

19. 内殻二重正孔状態に対する理論的研究

高橋 修, 上田 潔

Journal of Computer Chemistry Japan **13** (6), 297 (2014.12)

(2015)

和文解説

20. 2重スリット思考実験を分子レベルで実現

上田 潔

パリティ **30**, 42 (2015.5)

書籍 (共同執筆)

21. CSJ カレントレビュー 強光子場の化学-分子の超高速ダイナミクス 18章

極紫外自由電子レーザー場における原子・分子・クラスターの非線形過程 p. 141

菱川明栄, 上田潔

日本化学会編, 化学同人 (2015.3)

(2017)

和文解説

22. 短波長自由電子レーザー照射により発現するクラスターの新規現象

(Novel Phenomena in Clusters Irradiated by Short-Wavelength Free-Electron Lasers)

福澤 宏宣, 上田 潔

(Hironobu Fukuzawa, Kiyoshi Ueda)

レーザー研究 (The Review of Laser Engineering) **45** (8), 498 (2017)

23. SACLA の高強度 X 線照射下の原子・分子の動的振舞い

(Dynamic Behavior of Atoms and Molecules Irradiated by Intense X-rays of SACLA)

福澤 宏宣, 上田 潔

(Hironobu Fukuzawa, Kiyoshi Ueda)

日本結晶学会誌 (Journal of the Crystallographic Society of Japan) **59** (1), 29 (2017.2)

(2019)

和文解説

24. Ne-Kr 混合クラスターにおける基底状態のイオンへの電子移動による底エネルギー電子生成

D. You, H. Fukuzawa, and K. Ueda
放射光 第 32 卷 第 1 号 9 (2019.1)

(2020)

和文解説

25. X 線自由電子レーザーが誘起するナノプラズマ誕生の瞬間
熊谷嘉晃, 福澤宏信, 永谷清信, 和田真一, 上田潔
放射光 第 33 卷 第 1 号 1 (2020.1)

26. X 線で誘起される気相分子の超高速反応の観測
福澤宏信, 永谷清信, 和田真一, 河野 裕彦, 上田潔
放射光 (in press)

3. Selected list of invited lectures (exc. Lectures in Japanese)

(1993)

1. Inner-shell excitation of atoms and molecules by soft X-rays

The 18th international conference on the physics of electronic and atomic collisions (XVIII ICPEAC), Denmark, Aarhus (1993.7)

(1994)

2. Decay dynamics of inner-shell excited atoms and molecules

International workshop on atomic physics at high brilliance synchrotron sources, USA, Argonne (1994.4)

3. Decay dynamics after inner-shell excitation of molecules by soft X-rays

The 3rd international workshop on photoionization (IWP'94), USA, San Francisco (1994,10)

(1995)

4. C 1s photoabsorption and subsequent electronic decay of CH₄, CH₃F, CH₂F₂, CHF₃, and CF₄

UK-Japan seminar, Japan, Okazaki (1995.8)

5. Decay dynamics of core excited molecules: BF₃

Oji international seminar on atomic and molecular photoionization, Japan, Tsukuba (1995.9)

(1996)

6. High-resolution measurements and multi-channel quantum analysis of spectral line shapes of autoionizing Rydberg series

The 13th international conference on spectral line shapes, Italy, Firenze (1996.6)

(1997)

7. Decay and dissociation dynamics of core-excited polyatomic molecules

The 7th international conference on electron spectroscopy (ICES'97), Japan, Chiba (1997.9)

(1998)

8. Nuclear motion dynamics of core-excited molecules

The international workshop on atomic and molecular physics at high brilliance synchrotron radiation facilities, Japan, Hyogo (1998.9)

(1999)

9. Nuclear motion and symmetry breaking of core-excited polyatomic molecules - Anisotropic fragmentation of CF₄ following F 1s photoabsorption

The 21st international conference on the physics of electronic and atomic collisions (XXI ICPEAC), Japan, Sendai (1999.7)

10. Angular distributions and correlations in Auger cascades of atomic argon following 2p to 4s excitation

The 18th international conference on X-ray and inner-shell processes, USA, Chicago (1999.8)

(2000)

11. Molecular Fragmentation

International workshop on many-particle dynamics in Coulomb systems, Germany, Bad-Honnef (2000.5.29-6.2)

12. High-resolution inner-shell spectroscopies on the soft X-ray photochemistry beamline at SPring-8

The 5th international workshop on photoionization (IWP), France, Carry le Rouet (2000.8.8-12)

13. Inner-shell spectroscopy of atoms and molecules: current status and future plan

SPring-8 international workshop on 30-m long straight section, Japan, Kouto (2000.11.10-11)

(2001)

14. Angular distributions of photoejected Auger electrons from randomly oriented molecules

IMS-symposium on photoionization dynamics, Japan, Okazaki (2001.5.14)

15. Nuclear motion, symmetry breaking and dissociation dynamics of core-excited polyatomic molecules

The 13th international conference on vacuum ultraviolet radiation physics (VUV13), Italy, Trieste (2001.7.23-27)

(2002)

16. Molecular fragmentation

Wilhelm und Else Heraeus-seminar: Workshop on highly correlated states in molecules, atoms and nuclei, Germany, Bad-Honnef (2002.6.2-6)

17. Nuclear dynamics of core excited/ionized molecules

IMS-symposium on dynamics of photonic, electronic, and heavy-particle collisions, Japan, Okazaki (2002.7.25-26)

18. Dynamical properties of core-excited/ionized atoms and molecules probed by use of narrow-band monochromatic soft X-rays

International workshop on dynamics in core-excited molecules, Japan, Hiroshima (2002.8.27-29)

19. Atomic and molecular science at the XUV/soft X-ray FEL

French-Japanese workshop on the free-electron lasers, Japan, Tokyo (2002.11.11-13)

(2003)

20. Doppler-free electron spectroscopy studies of atoms and molecules

The 9th international conference on electronic spectroscopy and structure (ICES2003), Sweden, Uppsala (2003.6.30-7.4)

21. Kiyoshi Ueda

Electron-ion multiple-coincidence momentum imaging applied for molecular core excitation and ionization by soft X-rays

Gordon research conference on photoions, photoionization, and photodetachment, UK, Oxford (2003.9.21-26)

22. Electron emission in dissociative photoionization

ESF-workshop 2003, Germany, Berlin (2003.12.8-9)

23. Shake-up and photoelectron-impact mechanisms of satellite excitations in molecular core level photoemission

International symposium on (e, 2e) and double photo-ionization (2003)

(2004)

24. High-resolution excitation and de-excitation spectroscopy on atoms and molecules

VUV14 satellite workshop, Australia, Melbourne (2004.7.11-13)

(2005)

25. Controlling atomic and molecular processes by light

International seminar on atomic processes in intense laser fields and related many body phenomena,

Japan, Shonan (2005.1.20-23)

26. Anisotropic ultra-fast dissociation and intra-molecular Auger electron scattering of core-excited molecules

New trends in gas phase VUV/soft X-ray high resolution spectroscopies at SOLEIL, France, Saint Aubin (2005.3.21)

27. Probing and controlling atomic and molecular processes using soft x-rays or phase coherent double pulses

Ultrafast time resolved soft x-ray science workshop, Germany, Berlin (2005.4.29-5.1)

28. Studying and controlling ultrafast phenomena in atoms and molecules

Fourth generation light source user community meeting, UK, Warrington (2005.7.1-3)

29. Photodissociation dynamics of molecules by the SR experiments

24th international conference on photonic, electronic and atomic collisions (XXIV ICPEAC), Argentina, Rosario (2005.7.20-26)

30. Femtosecond, dynamics of the electron and nuclear wave packets in atoms and molecules

International Workshop on Photoionization (IWP), Brazil, Campinas (2005.7.27-31)

31. Photon impact experiments, Today and Tomorrow

Satellite meeting of IWP, Brazil, Campinas (2005.8.1)

(2006)

32. Electron-ion coincidence momentum spectroscopy

International symposium, scattering, coincidence and absorption studies of molecules (SCASM), Brazil, Rio de Janeiro (2006.9.4-6)

(2007)

33. Photoemission and coincidence studies on gas-phase molecules

Elettra seminar, Italy, Trieste (2007.3.4-5)

34. Photoemission and coincidence studies on gas-phase molecules in intense field

MPI seminar, Germany, Munich (2007.3.6)

35. Photoemission and coincidence studies on gas-phase molecules in intense field
MPI seminar, Germany, Dresden (2007.3.7)
36. Photoemission and coincidence studies on gas-phase molecules in intense field
MBI seminar, Germany, Berlin (2007.3.8)
37. Photoemission and coincidence studies on gas-phase molecules
BESSY seminar, Germany, Berlin (2007.3.9-10)
38. Photoemission and coincidence studies on gas-phase molecules in intense field
MPI seminar, Germany, Heidelberg (2007.3.13)
39. Electron emission and fragmentation of molecules in intense laser fields
International conference on coherent and nonlinear optics, Belarus, Minsk (2007.5.28-6.1)
40. Interatomic energy and charge transfer in rare-gas clusters after Auger decay by
multi-coincidence momentum imaging
Structure and dynamics of free and supported nanoparticles using short wavelength radiation, Italy,
Erice (Sicily), (2007.7.22-26)
41. Photoemission and coincidence studies on gas-phase molecules using synchrotron radiation
The 15th international conference on vacuum ultraviolet radiation physics, Germany, Berlin
(2007.7.29-8.3)
42. Photoemission and coincidence studies on gas-phase molecules using synchrotron radiation
The 10th Asia Pacific Physics Conference (APPC10), Korea, Pohang (2007.8.21-24)
43. Interaction of laser fields with atoms and molecules
Graduate school on ultrafast and intense laser interaction with molecules and related phenomena,
China, Changchun (2007.12.4-16)
- (2008)**
44. Novel methods for molecular dynamics
Gordon research conference on photoions, photionization, and photodetachment, Italy, Lucca
(2008.1.27-2.1)

45. Probing ultrafast electron and nuclear dynamics of gas-phase targets by electron spectroscopy
21st International conference on x-ray and inner-shell processes (X'08), France, Paris
(2008.6.22-27)

46. Multicoincidence measurement of molecular-frame photoelectron angular distributions for
core-level photoemission from small molecules
International conference on many particle spectroscopy of atoms, molecules, clusters and surfaces
(MPS2008), France, Paris (2008.6.30-7.2)

47. Ultrafast probing of target structure information
International workshop on time-resolved X-ray processes in atoms, molecules and solids, Germany,
Dresden (2008.8.4-8)

48. Towards ultrafast probing of target structure information by momentum imaging
MBI seminar, Germany, Berlin (2008.9.11)

49. Towards ultrafast probing of target structure information by momentum imaging
Free University lecture, Germany, Berlin (2008.9.15)

50. Towards ultrafast probing of target structure information by momentum imaging
BESSY seminar, Germany, Berlin (2008.9.16)

51. Towards ultrafast probing of target structure information by momentum imaging
TU Berlin Lecture, Germany, Berlin (2008.9.17)

52. Atomic, molecular and cluster science using X-ray FELs
International workshop on the science with and the instrumentation for small quantum systems at the
European XFEL, Denmark, Aarhus (2008.10.29-31)

53. Multi-coincidence spectroscopy on interatomic Coulombic decay (Keynote lecture)
Asian international seminar on atomic and molecular physics (AISAMP8), Australia, Perth
(2008.11.24-28)

(2009)

54. Coherent photoelectron emission from diatoms: Influence of scattering, recoil, electronic decay,
and dissociation

German physical society meeting, Germany, Hamburg (2009. 3.2-6)

55. Multiple Ionization of Atoms, Molecules and Clusters Irradiated by EUV-FEL at SPring-8
Soleil seminar, France, Saint Aubin (2009.4.28)

56. Momentum imaging for ultrafast molecular imaging: from synchrotron radiation to fs laser to XFEL
Ultrafast dynamic imaging of matter II, Italy, Ischia (2009.4.30-5.3)

57. Multiple ionization of atoms, molecules and clusters irradiated by EUV-FEL at SPring-8
International workshop on the physics at EBITs and advanced research light sources (PEARL 2009),
Ireland, Dublin (2009.5.6-9)

58. Momentum imaging for ultrafast molecular imaging: from synchrotron radiation to fs laser to XFEL
Imperial College Lecture, UK, London (2009.6.3)

59. 3D momentum imaging for FEL experiments
At. Mol Opt. Phys. at LCLS, UK, Daresbury (2009.7.1)

60. Multiple ionization of atoms, molecules and clusters by intense EUV-FEL pulses at SPring-8
The 18th annual international laser physics workshop (LPHYS'09), Spain, Barcelona (2009.7.13-17)

61. Which-pass information in the double-slit experiment of diatomic molecules
International symposium on (e,2e), USA, Lexington, KY (2009.7.29-8.01)

62. Multi-coincidence spectroscopy on interatomic Coulombic decay
GCOE international conference on chemistry, Japan, Sendai (2009.8.19-22)

63. Studies on atoms and molecules using synchrotron radiation
Cheiron School, SPring-8, Japan, Kouto (2009.11.6)

64. AMO science at SCSS and future prospects
LBNL international workshop on "The future of ultrafast soft X-ray science", USA, Berkeley, CA
(2009.11.30-12.3)

65. Multi-coincidence momentum imaging for ultrafast molecular imaging: from synchrotron radiation to XFEL

International coincidence workshop, Germany, Kreuth (2009.12.9-12).

(2010)

66. Multi-coincidence measurements for photoelectron and Auger emission in the molecular frame
Gordon research conference on photoions, photoionization and photodetachment, USA, Galveston, TX (2010.1.31-2.5)

67. Atoms, molecules, and clusters irradiated by EUVFEL pulses at SCSS test accelerator
Ringberg discussion meeting on recent progress on soft- and hard-X-ray FEL applications, Germany, Kreuth (2010.3.14-17)

68. Interatomic energy and charge transfer in rare-gas dimers and clusters
International workshop on structure and dynamics of nano-objects using short wavelength radiation, France, Porticcio (Corsica) (2010.4.22–25)

69. Multi-photon processes in atoms, molecules, and clusters by intense extreme ultraviolet FEL at SPring-8
International symposium on coincidence experiments, Sweden, Uppsala (2010.5.30)

70. Probing molecular structure and electron dynamics using synchrotron radiation, IR laser, and FEL
KITP conference on X-ray science in the 21st Century, USA, Santa Barbara, CA (2010.8.2-6).

71. Angle-resolved rescattering-electron spectra of O₂ and CO₂ molecules induced by ultra-short intense laser pulses
Heraeus-seminar on ultrafast atomic physics—Towards the zeptosecond regime, Germany, Bad Honnef (2010.8.19- 23)

72. Multiphoton processes in atoms, molecules, and clusters by intense EUVFEL pulses at SPring-8
Ultrafast vacuum ultraviolet and X-ray physics workshop, USA, Stanford, CA (2010.7.19-21)

73. Probing molecular structure and electron dynamics using synchrotron radiation, IR laser, and FEL
9th Asian international seminar on atomic and molecular physics, Korea, Seoul (2010.10.4-8)

(2011)

74. FEL experiments in Japan: from EUV to X-rays

New frontiers in atomic, molecular and cluster physics and chemistry, Italy, Trieste (2011.11.23-14)

75. FEL experiments in Japan: from EUV to X-rays

PIER photon science colloquium, seminar at HASYLAB at DESY, Germany, Hamburg
(2011.10.14)

76. Studies on atoms and molecules using synchrotron radiation

Cheiron School, SPring-8, Japan, Kouto (2011.9.26-10.5)

77. Results from SCSS soft X-ray FEL at SPring-8

Workshop on science with free-electron lasers, China, Shanghai (2011.8.20-21)

78. Multiphoton processes in atoms and molecules by FEL pulses

International symposium on intense short wavelength processes in atoms and molecules (ISWAMP),
Ireland, Dublin (2011.7.21-23)

79. Experiments at SPring-8 FEL: from EUV to X rays

The 5th international symposium on "atomic cluster collisions", Germany, Berlin (2011.7.20-25)

80. Multiphoton processes in atoms, molecules, and clusters by FEL pulses

The 12th international conference on multiphoton processes (ICOMP12) Japan, Sapporo (2011.7.6)

81. Atoms, molecules, and clusters irradiated by EUVFEL pulses

Second Ringberg meeting on science with FEL, Germany, Kreuth (2011.2.27-3.2)

(2012)

82. Non-linear processes in atomic and molecular physics at FEL

Gordon research conference on photoions, photoionization and photodetachment, USA, Galveston,
TX (2012.2.12-17)

83. FEL experiments in Japan: From EUV to X-rays

FERMI panel meeting, Italy, Trieste (2012.3.14)

84. Dynamic Imaging

CUSPEL, Romania, Cluj (2012.3.21-23)

85. Multi-photon processes of Atoms and atomic clusters by intense FEL pulses: From EUV to X-rays

Gordon research conference on multiphoton processes, USA, Mount Holyoke College, South Hadley, MA, (2012.6.3-8)

86. XFELs and Imaging

Ultrafast dynamic imaging of matter, Canada, Banff, Alberta (2012.7.1-3)

87. FEL experiments for atoms and atomic clusters: From EUV to X-rays

ISSP international workshop on coherent soft X-ray science, Japan, Kashiwa (2012.6.27-29)

88. FEL experiments for atoms and atomic clusters: From EUV to X-rays

Science at FELs, Germany, DESY, Hamburg (2012.7.15-18)

89. FEL experiments for atoms and atomic clusters: From EUV to X-rays

FEL conference, Japan, Nara (2012.8.26-28)

90. FEL experiments for atoms and atomic clusters: From EUV to X-rays

International conference on many particle spectroscopy of atoms, molecules, clusters and surfaces (MPS2012), Germany, Berlin (2012.8.29-31)

91. Extracting chemical information of free molecules from K-shell double core-hole spectroscopy: Theoretical aspects

High resolution spectroscopies of isolated species: Present and future directions (HRSIS-2012), France, Soleil, Saint Aubin (2012.9.14-16)

92. Multi-photon processes of atoms and atomic clusters in the EUV to X ray regimes

International workshop on the physics at EBITs and advanced research light sources (PEARL 2012), China, Shanghai (2012.10.3-7)

93. FEL experiments for atoms, molecules, and atomic clusters in the EUV to X ray regimes

Physics colloquium at POSTECH, Korea, Pohang (2012.10.10)

94. Multi-photon processes of atoms and atomic clusters in the EUV to X-ray regimes
10th Asian International Seminar on Atomic and Molecular Physics (AISAMP10), Taiwan, Taipei
(2012.10.23-30)

(2013)

95. Experimental investigations of interatomic Coulombic decay (ICD) after Auger decay in rare-gas dimers

ICD Kick-off meeting, Germany, Budenheim (2013.1.16-18)

96. SCSS to SACLA: New opportunities for atomic, molecular and cluster science

NGLS seminar, Berkeley, USA (2013.4.3)

97. AMO experiments on SR vs FEL: Current status and future

ALS cross-cutting review meeting on dynamics and spectroscopy of atoms, ions, and molecules,
USA, Berkeley, CA (2013.4.4-5)

98. Studies on electron and molecular dynamics using novel light sources (Plenary talk)

XXVIII ICPEAC, China, Lanzhou (2013.7.24-30)

99. SCSS to SACLA: new opportunities for atomic, molecular and cluster science

Göttingen X-ray physics seminar, Germany, Göttingen (2013.10.9)

100. SACLA: new opportunities for atomic, molecular, and cluster science with XFEL

International conference on dynamic pathways in multidimensional landscape, Germany, Berlin
(2013.9.16-18).

101. SACLA: new opportunities for atomic, molecular and cluster science with XFEL

CFEL (Center of FEL science) seminar, Germany Hamburg (2013.9.19)

102. SACLA: new opportunities for atomic, molecular, and cluster science with XFEL

Frontiers in optics/laser science XXIX (FiO/LS) meeting, USA, Orlando, FL (2013.10.6-10)

103. Imaging molecular dynamics with EUV/x-ray pulses

International workshop on Ultrafast atomic and molecular physics with cutting edge light sources:
New opportunities and challenges, USA, Manhattan, KS (2013, 11. 3-6)

(2014)

104. SACLA: new opportunities for atomic, molecular and cluster science

The 5th Ringberg meeting on science with FEL, Germany, Kreuth (2014.2.16-21)

105. SACLA: new opportunities for atomic, molecular and cluster science

Gordon research conference on phototons, photoionization, and photodetachment, USA, Galveston, TX (2014.2.23-28)

106. SACLA: new opportunities for atomic, molecular and cluster science

International Workshop on the physics at EBITs and advanced research light sources (PEARL2014), China, Shanghai (2014.5.4-6)

107. SACLA: new opportunities for atomic, molecular and cluster science

Annual meeting of the APS division of atomic, molecular, and optical physics (DAMOP), USA, Madison, WI (2014. 6.2-6.6)

108. Double core-hole spectroscopy for chemical analysis

International workshop on photoionization and resonant inelastic X-ray scattering (IWP&RIXS), Italy, Erice (Sicily) (2014.8.26-9.1)

109. SACLA: new opportunities for atomic, molecular and cluster science

International conference on highly charged ions (HCI), Argentina, San Carlos de Bariloche (2014.8.31-9.5)

110. Interatomic Coulombic decay probed by novel light sources

ICD (Interatomic/intermolecular Coulombic decay) summer school, Germany, Bad Honnef (2014.9-5)

111. Multiphoton processes in the hard X-ray region

The 13th international conference on multiphoton processes (COMP13), China, Shanghai (2014.12.7-10)

112. SACLA: new opportunities for atomic, molecular and cluster science (Opening keynote lecture)

Asian international seminar on atomic and molecular physics (AISAMP11), Japan, Sendai (2014.10.6-10)

(2015)

113. XFEL-induced ultrafast electron and molecular dynamics

International symposium on (e,2e), Double photo-ionization and related topics and the 18th international symposium on polarization and correlation in electronic and atomic collision, Spain, San Sebastian (2015.7.30-8.1)

114. SACLA and FERMI: New opportunities for atomic, molecular and cluster science

Nobel symposium on free electron laser research, Sweden, Sigtuna (2015.6.14-18)

115. XFEL-induced ultrafast electron and molecular dynamics

PIPAMON (Photon and fast Ion induced Processes in Atoms, MOlecules and Nanostructures)

Workshop 2015, Hungary, Debrecen (2015.3.24-26)

(2016)

116. XFEL-induced ultrafast electron and molecular dynamics probed by an IR laser

7th Ringberg Workshop on Science with FELs, Germany, Kreuth (2016.2.7-10)

117. Ultrafast electronic and nuclear dynamics induced by ultrashort XFEL pulses

6th International workshop on the physics at EBITs and advanced research light sources (PEARL 2016), China, Shanghai (2016.6.10-13)

118. Ultrafast electron and molecular dynamics induced by ultrashort XFEL Pulses

VUVX2016 Satellite workshop on "Ultrafast dynamics and time-resolved interactions", Hungary, Szeged (2016.6.26-28)

119. Ultrafast electron and molecular dynamics induced by ultrashort XFEL pulses

International symposium on attosecond science, Japan, Tokyo (2016.7.30)

120. Femtosecond charge and molecular dynamics of I-containing organic molecules Induced by Intense x-ray free-electron laser pulses

Ultrafast imaging of photochemical dynamics: Faraday Discussion, UK, Edinburgh (2016.8.31-9.2)

121. Ultrafast electronic and nuclear dynamics induced by intense XFEL radiation

VI-conference on "Dynamic pathways in multidimensional landscapes 2016", Germany, Berlin (2016.9.12-16)

122. Not only ICD but also ETMD are everywhere

Workshop on “Structure and dynamics with atoms and molecules (SDAM)”, Germany, Heidelberg (2016.11.4-5)

123. Catching and controlling electrons in action with fully coherent FEL

WAVEFRONT: New frontiers and advanced application of 4th generation light sources to atomic, molecular, optical and cluster science, Italy, Trieste (2016.11.30-12.1)

(2017)

124. Ultrafast electronic and nuclear dynamics induced by intense ultrashort XFEL pulses

Frontiers in theoretical and applied physics (FTAPS 2017), UAE, Sharjah (2017.2.22-25)

125. Ultrafast electronic and nuclear dynamics induced by intense ultrashort XFEL pulses

The 33rd symposium on chemical kinetics and dynamics, Japan, Nagoya (2017.6.7-9)

126. Probing ultrafast structural and electronic dynamics using new light sources (Keynote lecture)

International symposium on intense short wavelength processes in atoms and molecules (ISWAMP), Australia, Brisbane (2017.7.22-24)

127. Catching electrons and atoms in action

LCLS-II-HE “First Experiments” meeting: AMO, biology, and quantum materials, USA, Menlo Park (2017.10.30-31)

128. Atomic, molecular, optical science

SACLA international users meeting, Japan, Kouto (2017.12.11-12)

(2018)

129. Catching and controlling electrons in action with FELs

Gordon research conference on photoionization and photodetachment, USA, Galveston (2018.2.18-23)

130. What we can do with new light sources

MAXIV seminar, Sweden, Lund (2018.5.23)

131. Catching and controlling electrons in action with FELs

Lund University attosecond laboratory seminar, Sweden, Lund (2018.5.24)

132. Catching atoms and electrons in action

Workshop on theoretical X-ray spectroscopy, Sweden, Stockholm (2018.5.7-8)

133. Ultrafast electronic and nuclear dynamics induced by intense, ultrashort XFEL pulses

Annual meeting of the APS division of atomic, molecular, and optical physics (DAMOP), USA, Fort Lauderdale (2018.5.28-6.1)

134. Catching and controlling electrons in action with FELs

Gordon research conference on multiphoton processes, USA, Smithfield (2018.6.24-29)

135. Ultrafast electronic and molecular dynamics induced by the XFEL pulse (Opening keynote lecture)

Asian international seminar on atomic and molecular physics (AISAMP13), India, Mumbai (2018.12.04-08)

136. Making invisible visible using invisible light (Public lecture)

Asian international seminar on atomic and molecular physics, India, Mumbai (2018.12.04-08)

(2019)

137. Ultrafast electronic and molecular dynamics induced by the XFEL pulse (Opening keynote lecture)

Photon tools for physical chemistry (PCCP2019), Switzerland, Beatenberg (2019.01.08-11)

138. AMO from 10 eV to 100 keV: molecular movie and beyond

European XFEL workshop “New scientific capabilities at European XFEL”, Germany, Hamburg (2019.03.25-27)

139. Ultrafast molecular and electronic dynamics to be studied by high repetition-rate XFELs

Physics next workshop “X-ray laser science-A new frontier agenda”, USA, East Long Island, NY (2019.4.22-24)

140. COLTRIMS on XFELs: past, present and future

International symposium on new trends in atomic physics, Germany, Frankfurt (2019.5.9-12)

141. Ultrafast electronic and molecular dynamics induced by the XFEL pulse

The 40th international conference on vacuum ultraviolet and X-ray physics (VUVX2019), USA, San Francisco (2019.07.1-5)

142. Science at XFELs: Present status and future directions (Plenary lecture)

The 28th annual international laser physics workshop (LPhys'19), South Korea, Gyeongju (2019.7.8-12)

143. Atomic cluster experiments at SACLA, an XFEL in Japan

The 9th International Symposium on "Atomic cluster collisions" (ISACC 2019), UK, Kent (2019.7.31-8.3)

144. Ultrafast molecular and electronic dynamics probed by free-electron lasers

Wilhelm und Else Heraeus Seminar # 702: "Otto Stern's molecular beam research and its impact on science"

Germany, Frankfurt (2019.9.1-5)

145. Ultrafast electronic and structural dynamics study by x-ray free electron lasers

DESY photon science seminar, Germany, Hamburg (2019.9.6)

146. Ultrafast electronic and structural dynamics study by x-ray free electron lasers

Collaborative research center (CRC) seminar, Germany, Kassel (2019.9.9)

147. Ultrafast structural and electronic dynamics probed by X-ray free electron lasers

ASPIRE Network Meeting, Germany, Berlin (2019.23-25)

148. Ultrafast structural dynamics study with the advanced light sources

ShanghaiTech seminar, China, Shanghai (2019.10.7)

149. Science at XFELs: Present status and future directions

SARI XFEL seminar, China, Shanghai (2019.10.8)

150. Ultrafast electronic and structural dynamics study by x-ray free electron lasers

ECNU seminar, China, Shanghai (2019.10.10)