

Publication List of Hans Jakob Wörner

PUBLICATIONS IN
PEER-REVIEWED
JOURNALS

Hyperlinks and selected pdf-files can be found at www.atto.ethz.ch/publications-and-awards.

151. Attosecond metrology in circular polarization
M. Han, J.-B. Ji, K. Ueda, **H. J. Wörner**
Nature **619**, 749 (2023)
150. Attosecond delays between dissociative and non-dissociative ionization of polyatomic molecules
X. Gong, E. Plésiat, A. Palacios, S. Heck, F. Martín, **H. J. Wörner**
Nat. Commun. **14**, 4402 (2023)
149. Femtosecond Proton Transfer in Urea Solutions Probed by X-ray Spectroscopy
Z. Yin, Y.-P. Chang, T. Balčiūnas, Y. Shakya, A. Djorović, G. Gaulier, G. Fazio, R. Santra, L. Inhester, J.-P. Wolf, **H. J. Wörner**
Nature **619**, 749 (2023)
148. Observation of Nuclear-Wavepacket Interference in Ultrafast Interatomic Energy Transfer
M. Han, J. Fedy, J.-B. Ji, V. Despré, A. I. Kuleff, **H. J. Wörner**
Phys. Rev. Lett. **130**, 253202 (2023)
147. Effects of Autoionizing Resonances on Wave-Packet Dynamics Studied by Time-Resolved Photoelectron Spectroscopy
P. Zhang, V.-H. Hoang, C. Wang, T. T. Luu, A.-T. Le, **H. J. Wörner**
Phys. Rev. Lett. **130**, 153201 (2023)
146. Ultrafast Imaging of the Jahn-Teller Topography in Carbon Tetrachloride
M. D. J. Waters, Z. X. Ng, N. R. Monahan, **H. J. Wörner**
J. Am. Chem. Soc. **145**, 7659 (2023)
145. Apparatus for attosecond transient-absorption spectroscopy in the water-window soft-X-ray region
K. S. Zinchenko, F. Ardana-Lamas, V. Utrio Lanfaloni, T. T. Luu, Y. Perton, M. Huppert, **H. J. Wörner**
Sci. Rep **13**, 3059 (2023)
144. Ultrafast dissociation of nitromethane from the 3p Rydberg state
M. D. J. Waters, J. T. Casanova, **H. J. Wörner**
Mol. Phys. e2164749 (2023)
143. Attosecond circular-dichroism chronoscopy of electron vortices
M. Han, J.-B. Ji, T. Balčiūnas, K. Ueda, **H. J. Wörner**
Nat. Phys. **19**, 230 (2023)
142. Two-Center Interference in the Photoionization Delays of Kr₂
S. Heck, M. Han, D. Jelovina, J.-B. Ji, C. Perry, X. Gong, R. Lucchese, K. Ueda, **H. J. Wörner**
Phys. Rev. Lett. **129**, 133002 (2022)
141. Ground-State Photoelectron Circular Dichroism of Methyl *p*-Tolyl Sulfoxide by Single-Photon Ionisation from a Table-Top Source
M. D. J. Waters, N. Ladda, A. Senftleben, V. Svoboda, M. Belozertsev, T. Baumert, **H. J. Wörner**
Chem. Phys. Chem. e202200575 (2022)

140. The ultrafast vibronic dynamics of ammonia's \tilde{D} state
M. D. J. Waters, **H. J. Wörner**
Phys. Chem. Chem. Phys. **24**, 23340 (2022)
139. Different Time Scales during Ultrafast Stilbene Isomerization in the Gas and Liquid Phases revealed using Time-Resolved Photoelectron Spectroscopy
C. Wang, M. D. J. Waters, P. Zhang, J. Suchan, V. Svoboda, T. T. Luss, C. Perry, Z. Yin, P. Slavíček, **H. J. Wörner**
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138. Decoherence and Revival of Attosecond Charge Migration Driven by Non-adiabatic Dynamics
D. Matselyukh, V. Despré, N. Golubev, A. Kuleff, **H. J. Wörner**
Nat. Phys. **18**, 1206 (2022)
137. Femtosecond photoelectron circular dichroism of chemical reactions
V. Svoboda, N. Bhargava Ram, D. Baykusheva, D. Zindel, M. D. J. Waters, B. Spenger, M. Ochsner, H. Herburger, J. Stohner, **H. J. Wörner**
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136. Attosecond Spectroscopy of Size-Resolved Water Clusters
X. Gong, S. Heck, D. Jelovina, C. Perry, K. Zinchenko, R. Lucchese, **H. J. Wörner**
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135. Attosecond Photoionization Dynamics: From Molecules over Clusters to the Liquid Phase
X. Gong, I. Jordan, M. Huppert, S. Heck, D. Baykusheva, D. Jelovina, A. Schild, **H. J. Wörner**
Chimia **76**, 520 (2022)
134. Energy scaling of carrier-envelope-phase-stable sub-two-cycle pulses at 1.76 μm from hollow-core-fiber compression to 1.9 mJ
K. S. Zinchenko, F. Ardana-Lamas, V. Utrio Lanfaloni, Y. Pertot, T. T. Luu, **H. J. Wörner**
Opt. Exp. **30** 22376 (2022)
133. Generation and complete polarimetry of ultrashort circularly polarized extreme-ultraviolet pulses
V. Svoboda, M. D. J. Waters, D. Zindel **H. J. Wörner**
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132. Intermolecular Coulombic decay in liquid water
P. Zhang, C. Perry, T. T. Luu, D. Matselyukh, **H. J. Wörner**
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131. Temperature Measurements of Liquid Flat Jets in Vacuum
Y.-P. Chang, Z. Yin, T. Balčiūnas, **H. J. Wörner**
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130. Low-energy electron distributions from the photoionization of liquid water: a sensitive test of electron mean-free paths
T. Gadeyne, P. Zhang, A. Schild, **H. J. Wörner**
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129. Attosecond interferometry of shape resonances in the recoil frame of CF₄
S. Heck, D. Baykusheva, M. Han, J.-B. Ji, C. Perry, X. Gong, **H. J. Wörner**
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128. Generation of circularly polarized extreme-ultraviolet harmonics from solids
T. T. Luu, **H. J. Wörner**
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127. Polarization measurements of deep- to extreme-ultraviolet high harmonics generated in liquid flat sheets
V. Svoboda, Z. Yin, T. T. Luu, **H. J. Wörner**
Opt. Exp. **29**, 30799 (2021)
126. Quantitative uncertainty determination of phase retrieval in RABBITT
J.-B. Ji, S. Heck, M. Han, **H. J. Wörner**
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125. Complete characterization of sub-Coulomb-barrier tunneling with phase-of-phase attoclock
M. Han, P. Ge, J. Wang, Z. Guo, Y. Fang, X. Ma, X. Yu, Y. Deng, **H. J. Wörner**, Q. Gong Y. Liu
Nat. Photonics **15**, 765 (2021)
124. All-XUV pump-probe transient absorption spectroscopy of the structural molecular dynamics of di-iodomethane
M. Rebholz, T. Ding, V. Despré, L. Aufleger, M. Hartmann, K. Meyer, V. Stooss, A. Magunia, D. Wachs, P. Birk, Y. Mi, G. Dimitrova Borisova, C. da Costa Castanheira, P. Rupprecht, G. Schmid, K. Schnorr, C. D. Schröter, R. Moshhammer, Z.-H. Loh, A. R. Attar, S. R. Leone, T. Gaumnitz, **H. J. Wörner**, S. Roling, M. Butz, H. Zacharias, S. Düsterer, R. Treusch, G. Brenner, J. Vester, A. I. Kuleff, Ch. Ott, T. Pfeifer
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123. Photoelectron spectroscopy of liquid water with tunable extreme-ultraviolet radiation: effects of electron scattering
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J. Phys. Chem. Lett. **12**, 2990 (2021)
122. Sub-7-femtosecond conical-intersection dynamics probed at the carbon K-edge
K. S. Zinchenko, F. Ardana Lamas, I. Seidu, S. P. Neville, J. van der Veen, V. Utrio Lanfaloni, **H. J. Wörner**
Science **371**, 489 (2021)
121. Evolution and ion kinetics of a XUV-induced nanoplasma in ammonia clusters
R. Michiels, A. C. LaForge, M. Bohlen, C. Callegari, A. Clark, A. von Conta, M. Coreno, M. Di Fraia, M. Drabbels, P. Finetti, M. Huppert, V. Oliver, O. Plekan, K. C. Prince, S. Stranges, **H. J. Wörner**, F. Stienkemeier
J. Phys. B: At. Mol. Opt. Phys **54**, 024002 (2021)
120. Nonlocal mechanisms of attosecond interferometry in three-dimensional systems
D. Jelovina, A. Scrinzi, **H. J. Wörner**, A. Schild
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119. Few-cycle high-harmonic generation in liquids: in-operando thickness measurement of flat microjets
Z. Yin, T. T. Luu, **H. J. Wörner**
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117. Probing molecular environment through photoemission delays
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116. Time-resolved formation of excited atomic and molecular states in XUV-induced nanoplazmas in ammonia clusters
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115. Simultaneous measurements of strong-field ionization and high harmonic generation in aligned molecules
C. Marceau, J. B. Bertrand, P. Peng, **H. J. Wörner**, P. B. Corkum, D. M. Villeneuve
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C. F. Perry, P. Zhang, F. B. Nunes, I. Jordan, A. von Conta, **H. J. Wörner**
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112. Real-time observation of water radiolysis and hydrated electron formation induced by extreme-ultraviolet pulses
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Sci. Adv. **6**, eaaz0385 (2020)
111. Alternative Approach for the Determination of Mean Free Paths of Electron Scattering in Liquid Water Based on Experimental Data
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110. Real-time probing of chirality during a chemical reaction
D. Baykusheva, D. Zindel, V. Svoboda, E. Bommeli, M. Ochsner, A. Tehlar, **H. J. Wörner**
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109. Reconstruction of attosecond pulses in the presence of interfering dressing fields using a 100 kHz laser system at ELI-ALPS
D. Hammerland, P. Zhang, S. Kühn, P. Jojart, I Seres, V. Zuba, Z. Varallyay, D. Charalambidis, K. Osvay, T. T. Luu, **H. J. Wörner**
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108. Electronic and vibrational relaxation dynamics of NH₃ Rydberg states probed by vacuum-ultraviolet time-resolved photoelectron imaging
V. Svoboda, Ch. Wang, M. D. J. Waters, **H. J. Wörner**
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107. The SwissFEL soft X-ray free-electron laser beamline: Athos
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T. Gaumnitz, A. Jain, M. Huppert, I. Jordan, F. Ardana-Lamas and **H. J. Wörner**
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99. Chiral Discrimination through Bielliptical High-Harmonic Spectroscopy
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97. Ab initio calculation of femtosecond-time-resolved photoelectron spectra of NO₂ after excitation to the A-band
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- 92a. Perspektiven für das Verständnis fundamentaler Elektronenkorrelationen durch Attosekundenspektroskopie
P. M. Kraus, **H. J. Wörner**
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- 92b. Perspectives of attosecond spectroscopy for the understanding of fundamental electron correlations
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B. E. Schmidt, A. Hage, T. Mans, F. Légaré, **H. J. Wörner**
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80. Dynamics of valence-shell electrons and nuclei probed by strong-field holography and rescattering
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70. High-order harmonic generation in solids: A unifying approach
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