Thomas Elsaesser

Publications in refereed journals and books

July 22, 2025

559. **Tuning the terahertz response of liquids by creating polar many-body excitations**
G. McCaul, M. Runge, M. Woerner, D. Talbayev, T. Elsaesser, and D. I. Bondar
Phys. Rev. A **112**, L011101 (2025)

558. **Ultrafast longitudinal and transverse dielectric response of collective polar modes in liquids**
M. Runge, M. Woerner, and T. Elsaesser
Phys. Rev. Res. **7**, 023304 (2025)

557. **Solvated electrons in polar liquids as ϵ-near-zero materials tunable in the terahertz frequency range**
M. Runge, M. Woerner, D. I. Bondar, and T. Elsaesser
Phys. Rev. Lett. **134**, 056901 (2025)

556. **Ultraschnelle Prozesse**
T. Elsaesser and C. Ropers
in: Physik - Erkenntnisse und Perspektiven, J. Ullrich, U. Bleyer, S. Köster, C. Lämmerzahl, D. Meschede, L. Schröter (Eds.), Deutsche Physikalische Gesellschaft, Bad Honnef 2025, pp. 93-96

555. **Structure and dynamics of ATP and the ATP - Zn^{2+} complex in solution**
E. Rossi, A. Kundu, A. Ferrarini, T. Elsaesser, and M. Sulpizi
J. Phys. Chem. Lett. **15**, 10039 (2024)

554. **Concepts and Applications of Nonlinear Terahertz Spectroscopy, 2nd Ed.**
T. Elsaesser, K. Reimann, and M. Woerner
IOP Publishing Ltd, London 2024, `https://doi.org/10.1088/978-0-7503-6492-8`

553. **Hydration structure and dynamics of phosphoric acid and its anions - Ultafast 2D-IR spectroscopy and ab initio molecular dynamics simulations**
A. Kundu. B. P. Fingerhut, and T. Elsaesser
J. Chem. Phys. **161**, 084503 (2024)

552. **Ultrafast terahertz Stark spectroscopy reveals the excited-state dipole moments of retinal in bacteriorhodopsin**
J. Zhang, P. Singh, D. Engel, B. P. Fingerhut, M. Broser, P. Hegemann, and T. Elsaesser
Proc. Nat. Acad. Sci. USA **121**, e2319676121 (2024)

551. **Obituary: Wolfgang Kaiser**
R. Kienberger, A. Laubereau, A. Leitenstorfer, T. Elsaesser, and W. Zinth
Physics Today, `https://pubs.aip.org/physicstoday/online/43549` (2024)

550. **Nonlinear terahertz polarizability of electrons solvated in a polar liquid**
M. Runge, K. Reimann, M. Woerner, and T. Elsaesser
Phys. Rev. Lett. **131**, 166902 (2023)

549. **Femtosecond diffraction with laser-driven hard x-ray sources: Nuclear motions and transient charge densities**
C. Hauf, M. Woerner, and T. Elsaesser
Chapter 4 in: Structural dynamics with x-ray and electron scattering, K. Amini, A. Rouzee, M. J. J. Vrakking (Eds.), Royal Society of Chemistry, London 2023, p. 126

548. **Ultrafast carrier dynamics and symmetry reduction in bismuth by non-perturbative optical excitation in the terahertz range**
M. Runge, A. Ghalgaoui, I. Gonzalez-Vallejo, F. Thiemann, M. Horn-von Hoegen, K. Reimann, M. Woerner, and T. Elsaesser
Phys. Rev. B **107**, 245140 (2023, Editor's suggestion)

547. **Transient terahertz Stark effect: A dynamic probe of electric interactions in polar liquids**
P. Singh, J. Zhang, D. Engel, B. P. Fingerhut, and T. Elsaesser
J. Phys. Chem. Lett. **14**, 5505 (2023)

546. **Excitation transfer from Cr^{2+} to Fe^{2+} ions in co-doped ZnSe as a pumping scheme for infrared solid-state lasers**
J. W. Tomm, G. Steinmeyer, P. Fuertjes, U. Griebner, and T. Elsaesser
J. Electron. Mat. **52**, 5166 (2023)

545. **Quantum pathways of carrier and coherent phonon excitation in bismuth**
A. Koc, I. Gonzales-Vallejo, M. Runge, A. Ghalgaoui, K. Reimann, L. Kremeyer, F. Thiemann, M. Horn-von Hoegen, K. Sokolowski-Tinten, M. Woerner, and T. Elsaesser
Phys. Rev. B **107**, L180303 (2023, Editor's Suggestion)

544. **Efficient electronic excitation transfer via phonon-assisted dipole-dipole coupling in Fe^{2+}:Cr^{2+}:ZnSe**
G. Steinmeyer, J. W. Tomm, P. Fuertjes, U. Griebner, S. S. Balabanov, and T. Elsaesser
Phys. Rev. Appl. **19**, 054043 (2023)

543. **Special issue on time-resolved vibrational spectroscopy**
K. J. Kubarych, M. C. Thielges, T. Tahara, and T. Elsaesser
J. Chem. Phys. **158**, 160401 (2023)

542. **Few-cycle 65-μJ pulses at 11.4 μm for ultrafast nonlinear longwave-infrared spectroscopy**
P. Fuertjes, M. Bock, L. von Grafenstein, D. Ueberschaer, U. Griebner, and T. Elsaesser
Optica **9**, 1303 (2022)

541. **Short-range cooperative slow-down of water solvation dynamics around SO_4^{2-}-Mg^{2+} ion pairs**
A. Kundu, S. I. Mamatkulov, F. N. Brünig, D. J. Bonthuis, R. R. Netz, T. Elsaesser, and B. P. Fingerhut
ACS Phys. Chem. Au **2**, 506 (2022, ACS Editors' Choice)

540. **Short-range slowdown of water solvation dynamics around SO_4^{2-} - Mg^{2+} ion pairs** A. Kundu, S. I. Mamatkulov, F. N. Brnig, D. J. Bonthuis, R. R Netz, T. Elsaesser, and B. P. Fingerhut
in: Ultrafast Phenomena 2022, Optica Publishing Group, F2A.2 (2022)

539. **Underdamped longitudinal soft mode dynamics in KDP observed by ultrafast x-ray diffraction**
I. Gonzlez-Vallejo, A. Koc, K. Reimann, M. Woerner, and T. Elsaesser
in: Ultrafast Phenomena 2022, Optica Publishing Group Th4A.34 (2022)

538. **Phonon-induced valence-charge relocation in cubic BN observed by ultrafast x-ray diffraction**
M. Woerner, S. Priyadarshi, I. Gonzlez-Vallejo, C. Hauf, K. Reimann, and T. Elsaesser
in: Ultrafast Phenomena 2022, Optica Publishing Group, Th2B.4 (2022)

537. **Intersubband shift currents in asymmetric quantum wells as a source of mono-cycle terahertz pulses**
M. Runge, T. Kang, K. Biermann, K. Reimann, M. Woerner, T. Elsaesser
in: Ultrafast Phenomena 2022, Optica Publishing Group, Tu5A.3 (2022)

536. **Coherent underdamped polarons in liquid alcohols**
P. Singh, J. Zhang, A. Ghalgaoui, K. Reimann, B. P. Fingerhut, M. Woerner, and T. Elsaesser
in: Ultrafast Phenomena 2022, Optica Publishing Group, W4A.30 (2022)

535. **Coherent polaron dynamics of electrons solvated in polar liquids**
P. Singh, J. Zhang, A. Ghalgaoui, K. Reimann, B. F. Fingerhut, M. Woerner, and T. Elsaesser
PNAS Nexus **1**, pgac078 (2022)

534. **Ultrafast vibrational response of activated C-D bonds in a chloroform-platinum(II) complex**
J. Zhang, A. Kundu, T. Elsaesser, P. Macchi, M. Kalter, G. Eickerling, and W. Scherer
J. Phys. Chem. Lett. **13**, 4447-4454 (2022)

533. **Kinetics of excitation transfer from Cr^{2+} to Fe^{2+} ions in co-doped ZnSe**
P. Fürtjes, J. W. Tomm, U. Griebner, G. Steinmeyer, S. A. Balabanov, E. M. Gavrishchuk, and T. Elsaesser
Opt. Lett. **47**, 2129 (2022)

532. **Phonon-induced relocation of valence charge in boron nitride observed by ultrafast x-ray diffraction**
S. Priyadarshi, I. González Vallejo, C. Hauf, K. Reimann, M. Woerner, and T. Elsaesser
Phys. Rev. Lett. **128**, 136402 (2022)

531. **Field-induced electron generation in water: Solvation dynamics and many-body interactions**
M. Woerner, B. P. Fingerhut, and T. Elsaesser
J. Phys. Chem. B **126**, 2621 (2022, perspective article)

530. **Underdamped longitudinal soft modes in ionic crystallites - lattice and charge motions observed by ultrafast x-ray diffraction**
I. González-Vallejo, A. Koç, K. Reimann, M. Woerner, and T. Elsaesser
Struct. Dyn. **9**, 024501 (2022)

529. **Cr:ZnS-based soliton self-frequency shifted signal generation for a tunable sub-100 fs MWIR OPCPA**
P. Fuertjes, L. von Grafenstein, C. Mei, M. Bock, U. Griebner, and T. Elsaesser
Opt. Express **30**, 5142 (2022)

528. **Mono-cycle terahertz pulses from intersubband shift currents in asymmetric semiconductor quantum wells**
M. Runge, T. Kang, K. Biermann, K. Reimann, M. Woerner, and T. Elsaesser
Optica **8**, 1638 (2021)

527. **Contact pairs of RNA with magnesium ions - electrostatics beyond the Poisson-Boltzmann equation**
B. P. Fingerhut, J. Schauss, A. Kundu, and T. Elsaesser
Biophys. J. **120**, 5322 (2021)

526. **Ultrafast nonlinear phonon response of few-layer hexagonal boron nitride**
T. Kang, J. Zhang, A.Kundu, K. Reimann, M. Woerner, T. Elsaesser, B. Gil, G. Cassabois, C. Flytzanis, G. Fugallo, M. Lazzeri, R. Page, and D. Jena
Phys. Rev. B 104, L140302 (2021, Editor's suggestion)

525. **Phosphate vibrations probe electric fields in hydrated biomolecules: spectroscopy, dynamics and interactions**
T. Elsaesser, J. Schauss, A. Kundu, and B. P. Fingerhut
J Phys. Chem. B **125**, 3899 (2021) (Tanimura Festschrift)

524. **Two-color two-dimensional terahertz spectroscopy: A new approach for exploring even-order nonlinearities in the nonperturbative regime**
M. Woerner, A. Ghalgaoui, K. Reimann, and T. Elsaesser
J. Chem. Phys. **154**, 154203 (2021)

523. **Perspective: Two-dimensional terahertz spectroscopy of condensed-phase molecular systems**
K. Reimann, M. Woerner, and T. Elsaesser
J. Chem. Phys. **154**, 120901 (2021)

522. **Compact OPCPA system seeded by a Cr:ZnS laser for generating tunable femtosecond pulses in the MWIR**
P. Fuertjes, L. von Grafenstein, D. Ueberschaer, C. Mei, U. Griebner, and T. Elsaesser
Opt. Lett. **46**, 1704 (2021)

521. **Terahertz polaron oscillations of electrons solvated in liquid water**
A. Ghalgaoui, B. P. Fingerhut, K. Reimann, T. Elsaesser, and M. Woerner
Phys. Rev. Lett. **126**, 097401 (2021, Editor's suggestion)

520. **Magnesium contact ions stabilize the tertiary structure of transfer RNA: Electrostatics mapped by two-dimensional infrared spectra and theoretical simulations**
J. Schauss, A. Kundu, B. P. Fingerhut, and T. Elsaesser
J. Phys. Chem. B **125**, 740 (2021)

519. **Compact high-flux hard x-ray source driven by femtosecond mid-infrared pulses at a 1 kHz repetition rate**
A. Koç, C. Hauf, M. Woerner, L. von Grafenstein, D. Ueberschaer, M. Bock, U. Griebner, and T. Elsaesser
Opt. Lett. **46**, 210 (2021)

518. **Impact of RNA melting on hydrating water structure mapped by femtosecond 2D-IR spectroscopy**
B. P. Fingerhut, A. Kundu, J. Schauss, and T. Elsaesser
in: The 22nd International Conference on Ultrafast Phenomena 2020, OSA Publishing (2020), doi.org/10.1364/UP.2020.M2A.1

517. **Structural discrimination of phosphate contact ion pairs in water by femtosecond 2D-IR spectroscopy**
A. Kundu, J. Schauss, B. P. Fingerhut, and T. Elsaesser
in: The 22nd International Conference on Ultrafast Phenomena 2020, OSA Publishing (2020), doi.org/10.1364/UP.2020.M4B.9

516. **Nonlinear terahertz response of solvated electrons in liquid water**
A. Ghalgaoui, B. P. Fingerhut, K. Reimann, M. Woerner, and T. Elsaesser
in: The 22nd International Conference on Ultrafast Phenomena 2020, OSA Publishing (2020), doi.org/10.1364/UP.2020.Th4A.4

515. **Blue-shift of the TO phonon resonance in GaAs by femtosecond electron-hole excitation**
K. Reimann, A. Ghalgaoui, M. Woerner, T. Elsaesser, C. Flytzanis, and K. Biermann
in: The 22nd International Conference on Ultrafast Phenomena 2020, OSA Publishing (2020), doi.org/10.1364/UP.2020.Tu3B.3

514. **Multi-millijoule, few cycle 5 μm OPCPA at 1 kHz repetition rate**
L. von Grafenstein, M. Bock, D. Ueberschaer, E. Escoto, A. Koç, P. Schuenemann, U. Griebner, and T. Elsaesser
Opt. Lett. **45**, 5998 (2020)

513. **Field-induced tunneling ionization and terahertz-driven electron dynamics in liquid water**
A. Ghalgaoui, L.-M. Koll, B. Schütte, B. P. Fingerhut, K. Reimann, M. Woerner, and T. Elsaesser
J. Phys. Chem. Lett. **11**, 7717 (2020)

512. **Frequency upshift of the transverse optical phonon resonance in GaAs by femtosecond electron-hole excitation**
A. Ghalgaoui, K. Reimann, M. Woerner, T. Elsaesser, C. Flytzanis, and K. Biermann
Phys. Rev. Lett. **125**, 027401 (2020)

511. **Spatial distribution of electric-field enhancement across the gap of terahertz bow-tie antennas**
M. Runge, D. Engel, M. Schneider, K. Reimann, M. Woerner, and T. Elsaesser
Opt. Express **28**, 399462 (2020)

510. **Aqueous contact ion pairs of phosphate groups with Na^+, Ca^{2+} and Mg^{2+}: Structural discrimination by femtosecond infrared spectroscopy and molecular dynamics simulations**
B. P. Fingerhut, J. Schauss, A. Kundu, and T. Elsaesser
Z. Phys. Chem. **234**, 1453 (2020)

509. **2.05 µm chirped pulse amplification system at a 1 kHz repetition rate - 2.4 ps pulses with 17 GW peak power**
L. von Grafenstein, M. Bock, D. Ueberschaer, Azize Koç, U. Griebner, T. Elsaesser
Opt. Lett. **45**, 3836 (2020)

508. **Change of hydration patterns upon RNA melting probed by excitations of phosphate backbone vibrations**
A. Kundu, J. Schauss, B. P. Fingerhut, and T. Elsaesser
J. Phys. Chem. B **124**, 2132 (2020)

507. **Contact ion pairs of phosphate groups in water: Two-dimensional infrared spectroscopy of dimethyl phosphate and ab initio simulations**
J. Schauss, A. Kundu, B. P. Fingerhut, and T. Elsaesser
J. Phys. Chem. Lett. **10**, 6281 (2019)

506. **Impact of piezoelectric fields on coherent zone-folded phonons in GaAs/AlAs superlattices**
F. Mahler, K. Reimann, M. Woerner, T. Elsaesser, C. Flytzanis, and K. Biermann
Phys. Rev. B **100**, 121302(R) (2019)

505. **Noncovalent interactions of hydrated DNA and RNA mapped by 2D-IR spectroscopy**
B. P. Fingerhut and T. Elsaesser
in: Coherent Multidimensional Spectroscopy, M. Cho (Ed.), Springer, Singapore 2019, p. 171

504. **Hydrated excess protons in acetonitrile/water mixtures: solvation species and ultrafast proton motions**
A. Kundu, F. Dahms, B. P. Fingerhut, E. T. J. Nibbering, E. Pines, and T. Elsaesser
J. Phys. Chem. Lett. **10**, 2287 (2019)

503. **Time-resolved photoluminescence from n-doped GaN/$Al_{0.18}Ga_{0.82}N$ short-period superlattices probes carrier kinetics and long-term structural stability**
F. Mahler, J. W. Tomm, K. Reimann, M. Woerner, V. Hoffmann, C. Netzel, M. Weyers, and T. Elsaesser
J. Appl. Phys. **125**, 185705 (2019)

502. **Soft-mode driven dynamics in ferroelectrics - new insight from ultrafast terahertz and x-ray experiments**
T. Elsaesser, G. Folpini, C. Somma, K. Reimann, M. Holtz, A. A. Hernandez Salvador, and M. Woerner
Ultrafast Phenomena XXI 205 EPJ Web of Conferences (2019) 04001/1-3 (invited paper)

501. **Interactions of RNA and water probed by 2D-IR spectroscopy**
B. P. Fingerhut, E. M. Bruening, J. Schauss, T. Siebert, and T. Elsaesser
Ultrafast Phenomena XXI 205 EPJ web of Conferences (2019) 05007/1-3

500. **Ultrafast dynamics of hydrated excess protons in CH_3CN:H_2O mixtures**
F. Dahms, A. Kundu, E. Pines, B. P. Fingerhut, E. T. J. Nibbering, and T. Elsaesser
Ultrafast Phenomena XXI 205 EPJ Web of Conferences (2019) 09003/1-3

499. **Terahertz driven amplification of coherent optical phonons in GaAs coupled to metallic dog-bone resonators**
M. Woerner, C. Somma, K. Reimann, T. Elsaesser, I. Brener, J. L. Reno, Y. Yang, and P. Q. Liu
Ultrafast Phenomena XXI 205 EPJ Web of Conferences (2019) 05007/1-3

498. **Spectral meta-moments reveal hidden signatures of vortex pulses**
M. Liebmann, A. Treffer, M. Bock, T. Seiler, J. Jahns, T. Elsaesser, and R. Grunwald
Ultrafast Phenomena XXI 205 EPJ Web of Conferences (2019) 01005/1-3

497. **Millijoule few-cycle 5 μm source at 1 kHz repetition rate for generating broadband pulses from the mid- to far-infrared**
G. Folpini, K. Reimann, M. Woerner, L. von Grafenstein, M. Bock, U. Griebner, and T. Elsaesser
Ultrafast Phenomena XXI 205 EPJ Web of Conferences (2019) 01014/1-3

496. **Terahertz driven amplification of coherent optical phonons in GaAs coupled to a metasurface**
M. Woerner, C. Somma, K. Reimann, T. Elsaesser, P. Q. Liu, Y. Yang, J. L. Reno, and I. Brener
Phys. Rev. Lett. **122**, 107402 (2019)

495. **Recent advances in ultrafast x-ray sources**
R. Schoenlein, T. Elsaesser, K. Holldack, Z. Huang, H. Kapteyn, M. Murnane, and M. Woerner
Phil. Trans. R. Soc. A **377**, 20180384 (2019)

494. **Concepts and Applications of Nonlinear Terahertz Spectroscopy**
T. Elsaesser, K. Reimann, and M. Woerner, IOP Concise Physics, Morgan & Claypool, San Rafael (2019)

493. **Self-imaging of tailored vortex pulse arrays and spectral Gouy rotation echoes**
M. Liebmann, A. Treffer, M. Bock, T. Seiler, J. Jahns, T. Elsaesser, and R. Grunwald
Opt. Lett. **44**, 1047 (2019)

492. **Phonon driven charge dynamics in polycrystalline acetylsalicylic acid mapped by ultrafast x-ray diffraction**
C. Hauf, A. Hernandez Salvador, M. Holtz, M. Woerner, and T. Elsaesser
Struct. Dyn. **6**, 014503 (2019, Feature Article)

491. **Book review: Structures on different time scales. T. Woike, D. Schaniel (Eds.). De Gruyter, 2018**
T. Elsaesser
J. Appl. Cryst. **52**, 245 (2019)

490. **Phosphate–magnesium ion interactions in water probed by ultrafast two-dimensional infrared spectroscopy**
J. Schauss, F. Dahms, B. F. Fingerhut, and T. Elsaesser
J. Phys. Chem. Lett. **10**, 238 (2019)

489. **Soft x-ray absorption spectroscopy of aqueous solutions using a table top femtosecond soft x-ray source**
C. Kleine, M. Ekimova, G. Goldsztejn, S. Raabe, C. Strüber, J. Ludwig, S. Yarlagadda, S. Eisebitt, M. J. J. Vrakking, T. Elsaesser, E. T. J. Nibbering, and A. Rouzée
J. Phys. Chem. Lett. **10**, 52 (2019)

488. **Resonant second-order nonlinear terahertz response of gallium arsenide**
A. Ghalgaoui, K. Reimann, M. Woerner, and T. Elsaesser
Phys. Rev. Lett. **121**, 266602 (2018)

487. **Ultrafast vibrational relaxation and energy dissipation of hydrated excess protons in polar solvents**
A. Kundu, F. Dahms, B. P. Fingerhut, E. T. J. Nibbering, E. Pines, and T. Elsaesser
Chem. Phys. Lett. **713**, 111 (2018)

486. **Generation of millijoule few-cycle pulses at 5 μm by indirect spectral shaping of the idler in an optical parametric chirped pulse amplifier**
M. Bock, L. von Grafenstein, U. Griebner, and T. Elsaesser
J. Opt. Soc. Am B **35**, C18 (2018)

485. **Macroscopic electric polarization and microscopic electron dynamics: quantitative insight from femtosecond x-ray diffraction**
C. Hauf, M. Woerner, and T. Elsaesser
Phys. Rev. B **98**, 054306 (2018, Editor's Suggestion)

484. **Ultrafast carrier dynamics in a GaN/$Al_{0.18}Ga_{0.82}N$ superlattice**
F. Mahler, J. W. Tomm, K. Reimann, M. Woerner, T. Elsaesser, C. Flytzanis, V. Hoffmann, and M. Weyers
Phys. Rev. B **97**, 161303(R) (2018)

483. **Soft-mode driven polarity reversal in ferroelectrics mapped by ultrafast x-ray diffraction**
C. Hauf, A.-A. Hernandez Salvador, M. Holtz, M. Woerner, and T. Elsaesser
Struct. Dyn. **5**, 024501 (2018)

482. **Multidimensional terahertz spectroscopy**
M. Woerner, K. Reimann, and T. Elsaesser
in: Encyclopedia of Modern Optics, 2nd ed., R. D. Guenther, D. G. Steel (Eds.), vol. 2, pp. 197-206 (2018)

481. **Vibrational dynamics and couplings of the hydrated RNA backbone - a two-dimensional infrared study**
E. M. Bruening, J. Schauss, T. Siebert, B. F. Fingerhut, and T. Elsaesser
J. Phys. Chem. Lett. **9**, 583 (2018)

480. **Spectral anomalies and Gouy rotation around the singularity of ultrashort vortex pulses**
M. Liebmann, A. Treffer, M. Bock, T. Elsaesser, and R. Grunwald
Opt. Express **25**, 26076 (2017)

479. **Editorial: Im Atomkino**
T. Elsaesser
Physik in unserer Zeit **48**, 263 (2017)

478. **5 μm, few-cycle pulses with multi-gigawatt peak power at a 1 kHz repetition rate**
L. von Grafenstein, M. Bock, D. Ueberschaer, K. Zawilski, P. Schunemann, U. Griebner, and T. Elsaesser
Opt. Lett. **42**, 3796 (2017)

477. **Water librations in the hydration shells of phospholipids**
G. Folpini, T. Siebert, M. Woerner, S. Abel, D. Laage, and T. Elsaesser
J. Phys. Chem. Lett. **8**, 4492 (2017)

476. **Strong local-field enhancement of the nonlinear soft-mode response in a molecular crystal**
G. Folpini, K. Reimann, M. Woerner, T. Elsaesser, J. Hoja, and A. Tkatchenko
Phys. Rev. Lett. **119**, 097404 (2017)

475. **Water dynamics in the hydration shells of biomolecules**
D. Laage, T. Elsaesser, and. J. T. Hynes
Chem. Rev. **117**, 10694 (2017)

474. **Introduction: Ultrafast processes in chemistry**
T. Elsaesser
Chem. Rev. **117**, 10621 (2017)

473. **Large-amplitude motion of hydrated excess protons mapped by ultrafast 2D IR spectroscopy**
F. Dahms, B. P. Fingerhut, E. T. J. Nibbering, E. Pines, and T. Elsaesser
Science **357**, 491 (2017)

472. **Towards shot-noise limited diffraction experiments with table-top femtosecond hard x-ray sources**
M. Holtz, C. Hauf, J. Weisshaupt, A. A. Hernandez Salvador, M. Woerner, and T. Elsaesser
Struct. Dyn. **4**, 054304 (2017)

471. **Molecular couplings and energy exchange between DNA and water mapped by femtosecond infrared spectroscopy of backbone vibrations**
Y. Liu, B. Guchhait, T. Siebert, B. P. Fingerhut, and T. Elsaesser
Struct. Dyn. **4**, 044015 (2017)

470. **Perspective: Structure and ultrafast dynamics of biomolecular hydration shells**
D. Laage, T. Elsaesser, and J. T. Hynes
Struct. Dyn. **4**, 044018 (2017)

469. **Ultrafast modulation of electronic structure by coherent phonon excitations**
J. Weisshaupt, A. Rouzée, M. Woerner, M. J. J. Vrakking, T. Elsaesser, E. L. Shirley, and A. Borgschulte
Phys. Rev. B **95**, 081101(R) (2017)

468. **Nonlinear terahertz spectroscopy on multilayer graphene**
M. Woerner, T. Elsaesser, and K. Reimann
in: Optical Properties of Graphene, R. Binder (Ed.), p. 269, World Scientific, Singapore 2016

467. **Ho:YLF chirped pulse amplification at kilohertz repetition rates - 4.3 ps pulses at 2 μm with GW peak power**
L. von Grafenstein, M. Bock, D. Ueberschaer, U. Griebner, and T. Elsaesser
Opt. Lett. **41**, 4668 (2016)

466. **Predominance of short range Coulomb forces in phosphate-water interactions - a theoretical analysis**
B. P. Fingerhut, R. Costard, and T. Elsaesser
J. Chem. Phys. **145**, 115101 (2016)

465. **Shift-current induced strain waves in $LiNbO_3$ mapped by femtosecond x-ray diffraction**
M. Holtz, C. Hauf, A. Hernandez-Salvador, R. Costard, M. Woerner, and T. Elsaesser
Phys. Rev. B **94**, 104302 (2016)

464. **Range, magnitude and ultrafast dynamics of electric fields at the hydrated DNA surface**
T. Siebert, B. Guchhait, Y. Liu, B. P. Fingerhut, and T. Elsaesser
J. Phys. Chem. Lett. **7**, 3131 (2016, Spotlight paper)

463. **The hydrated excess proton in the Zundel cation $H_5O_2^+$: the role of ultrafast solvent fluctuations**
F. Dahms, R. Costard, E. Pines, E. T. J. Nibbering, B. P. Fingerhut, and T. Elsaesser
Angewandte Chemie Int. Ed. **55**, 10600 (2016)

462. **Phase-resolved two-dimensional terahertz spectroscopy including off-resonant interactions beyond the $\chi^{(3)}$ limit**
C. Somma, G. Folpini, K. Reimann, M. Woerner, and T. Elsaesser
J. Chem. Phys. **144**, 184202 (2016)

461. **Shortwave infrared (SWIR) emission from 450 nm InGaN diode lasers**
R. Kernke, M. Hempel, J. W. Tomm, T. Elsaesser, B. Stojetz, H. König, and U. Strauß
Opt. Mat. Express **6**, 2139 (2016)

460. **Two-phonon quantum coherences in indium antimonide studied by nonlinear two-dimensional terahertz spectroscopy**
C. Somma, G. Folpini, K. Reimann, M. Woerner, and T. Elsaesser
Phys. Rev. Lett. **116**, 177401 (2016)

459. **Ultrafast vibrational energy flow in water monomers in acetonitrile**
F. Dahms, R. Costard, E. T. J. Nibbering, and T. Elsaesser
Chem. Phys. Lett. **652**, 50 (2016, Editor's Choice)

458. **Strong amplification of coherent acoustic phonons by intraminiband currents in a semiconductor superlattice**
K. Shinokita, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and C. Flytzanis
Phys. Rev. Lett. **116**, 075504 (2016, Editor's suggestion)

457. **Transient surface modifications during singular heating events at diode laser facets**
M. Hempel, J. W. Tomm, A. Bachmann, C. Lauer, M. Furitsch, U. Strauß, and T. Elsaesser
Semicond. Sci. Technol. **31**, 055007 (2016)

456. **Taming chaos: 16 mJ picosecond Ho:YLF regenerative amplifier with 0.7 kHz repetition rate**
L. von Grafenstein, M. Bock, G. Steinmeyer, U. Griebner, and T. Elsaesser
Laser Photon. Rev. **10**, 123 (2016)

455. **Ultrafast vibrational dynamics of the DNA backbone at different hydration levels mapped by two-dimensional infrared spectroscopy**
B. Guchhait, Y. Liu, T. Siebert, and T. Elsaesser
Struct. Dyn. **3**, 043202 (2016)

454. **Long-term aging and quick stress-testing of 980-nm single-spatial mode lasers**
M. Hempel, J. W. Tomm, D. Venables, V. Rossin, E. Zucker, and T. Elsaesser
J. Lightwave Technol. **33**, 4450 (2015)

453. **Picosecond 34 mJ pulses at kHz repetition rates from a Ho:YLF amplifier at 2 μm wavelength**
L. von Grafenstein, M. Bock, D. Ueberschaer, U. Griebner, and T. Elsaesser
Opt. Express **23**, 33142 (2015)

452. **Ultrafast nonlinear response of bulk plasmons in highly doped ZnO layers**
T. Tyborski, S. Kalusniak, S. Sadofev, F. Henneberger, M. Woerner, and T. Elsaesser
Phys. Rev. Lett. **115**, 147401 (2015)

451. **Nonresonant coherent control: Intersubband excitations manipulated by a nonresonant terahertz pulse**
G. Folpini, D. Morrill, C. Somma, K. Reimann, M. Woerner, T. Elsaesser, and K. Biermann
Phys. Rev. B **92**, 085306 (2015)

450. **Anharmonic backbone vibrations in ultrafast processes at the DNA-water interface**
T. Siebert, B. Guchhait, Y. Liu, R. Costard, and T. Elsaesser
J. Phys. Chem. B **119**, 9670 (2015)

449. **Ultra-broadband terahertz pulses generated in the organic crystal DSTMS**
C. Somma, G. Folpini, J. Gupta, K. Reimann, M. Woerner, and T. Elsaesser
Opt. Lett. **40**, 3404 (2015)

448. **Kinetics of catastrophic optical damage in GaN-based diode lasers**
M. Hempel, J. W. Tomm, B. Stojetz, H. König, U. Strauss, and T. Elsaesser
Semicond. Sci. Technol. **30**, 072001 (2015)

447. **High-energy multi-kilohertz Ho-doped regenerative amplifiers around 2 μm**
L. von Grafenstein, M. Bock, U. Griebner, and T. Elsaesser
Opt. Express **23**, 14744 (2015)

446. **Focus: Phase-resolved nonlinear terahertz spectroscopy - from charge dynamics in solids to molecular excitations in liquids**
T. Elsaesser, K. Reimann, and M. Woerner
J. Chem. Phys. **142**, 212301 (2015, invited paper)

445. **Nanoscale transport of surface excitons at the interface between ZnO and a molecular monolayer**
S. Friede, S. Kuehn, S. Sadofev, S. Blumstengel, F. Henneberger, and T.Elsaesser
Phys. Rev. B **91**, 121415(R) (2015)

444. **Theoretical analysis of hard x-ray generation by nonperturbative interaction of ultrashort light pulses with a metal**
J. Weisshaupt, V. Juvé, M.Holtz, M. Woerner, and T. Elsaesser
Struct. Dyn. **2**, 024102 (2015)

443. **Ultrafast phosphate hydration dynamics in bulk H_2O**
R. Costard, T. Tyborski, B. P. Fingerhut, and T. Elsaesser
J. Chem. Phys. **142**, 212406 (2015)

442. **Non-instantaneous polarization dynamics in dielectric media**
M. Hofmann, J. Hyyti, S. Birkholz, M. Bock, S. K. Das, R. Grunwald, M. Hoffmann, T. Nagy, A. Demircan, M. Jupé, D. Ristau, U. Morgner, C. Brée, M.l Woerner, T. Elsaesser, and G. Steinmeyer
Optica **2**, 151 (2015)

441. **Wasser und Biomoleküle: Ultraschnelle Dynamik von Strukturen und Schwingungen**
T. Elsaesser
Chemie in unserer Zeit **49**, 48 (2015)

440. **Hydrated phospholipid surfaces probed by ultrafast 2D spectroscopy of phosphate vibrations**
R. Costard, I. A. Heisler, and T. Elsaesser
in: Ultrafast Phenomena XIX , K. Yamanouchi, S. Cundiff, R. de Vivie-Riedle, M. Kuwata-Gonokami, L. DiMauro (Eds.), Springer, Heidelberg 2015, p. 301

439. **Ultrafast terahertz response of lithium niobate in the nonperturbative regime**
C. Somma, K. Reimann, C. Flytzanis, M. Woerner, T. Elsaesser
in: Ultrafast Phenomena XIX , K. Yamanouchi, S. Cundiff, R. de Vivie-Riedle, M. Kuwata-Gonokami, L. DiMauro (Eds.), Springer, Heidelberg 2015, p. 620

438. **Sub-100 fs mid-infrared pulses as driver for a table-top hard x-ray source**
J. Weisshaupt, V. Juvé, M. Holtz, S. Ku, M. Woerner, T. Elsaesser, S. Alisauskas, A. Pugzlys, A. Baltuska
in: Ultrafast Phenomena XIX , K. Yamanouchi, S. Cundiff, R. de Vivie-Riedle, M. Kuwata-Gonokami, L. DiMauro (Eds.), Springer, Heidelberg 2015, p. 770

437. **Field-induced dynamics of correlated electrons in LiH and $NaBH_4$**
V. Juvé, M. Holtz, F. Zamponi, M. Woerner, T. Elsaesser , A. Borgschulte
in: Ultrafast Phenomena XIX , K. Yamanouchi, S. Cundiff, R. de Vivie-Riedle, M. Kuwata-Gonokami, L. DiMauro (Eds.), Springer, Heidelberg 2015, p. 241

436. **High-brightness table-top hard x-ray source driven by sub-100 fs mid-infrared pulses**
J. Weisshaupt. V. Juvé, S. Ku, M. Holtz, M. Woerner, T. Elsaesser, S. Alisauskas, A. Pugzlys, and A. Baltuska
Nature Photon. **8**, 927 (2014)

435. **Femtosecond x-ray diffraction maps field-driven charge dynamics in ionic crystals**
M. Woerner, M. Holtz, V. Juvé, T. Elsaesser, and A. Borgschulte
Faraday Discuss. **171**, 373 (2014)

434. **Spatio-temporal coherence mapping of few-cycle vortex pulses**
R. Grunwald, T. Elsaesser, and M. Bock
Sci. Rep. **4**, 7148 (2014)

433. **Nano-optical analysis of GaN-based diode lasers**
S. Friede, S. Kuehn, J. W. Tomm, V. Hoffmann, U. Zeimer, M. Weyers, M. Kneissl, and T. Elsaesser
Semicond. Sci. Technol. **29**, 112001 (2014)

432. **Short-wavelength infrared defect emission as a probe of degradation processes in 980 nm single mode diode lasers**
M. Hempel, J. W. Tomm, F. Yue, M. A. Bettiati, and T. Elsaesser
Laser Photon. Rev. **8**, L59 (2014)

431. **Ultrafast vibrational dynamics of BH_4^- ions in liquid and crystalline environments**
T. Tyborski, R. Costard, M. Woerner, and T. Elsaesser
J. Chem. Phys. **141**, 034506 (2014)

430. **High field terahertz bulk photovoltaic effect in lithium niobate**
C. Somma, K. Reimann, C. Flytzanis, T. Elsaesser, and M. Woerner
Phys. Rev. Lett. **112**, 146602 (2014)

429. **Ultrafast terahertz response of multi-layer graphene in the non-perturbative regime**
P. Bowlan, E. Martinez-Moreno, K. Reimann, T. Elsaesser, and M. Woerner
Phys. Rev. B **89**, 041408(R) (2014)

428. **Structural dynamics of hydrated phospholipid surfaces probed by ultrafast 2D sprectroscopy of phosphate vibrations**
R. Costard, I. A. Heisler, and T. Elsaesser
J. Phys. Chem. Lett. **5**, 506 (2014)

427. **Terahertz radiative coupling and damping in multilayer graphene**
P. Bowlan, E. Martinez-Moreno, K. Reimann, M. Woerner, and T. Elsaesser
New J. Phys. **16**, 013027 (2014)

426. **Perspective: Structural dynamics in condensed matter mapped by femtosecond x-ray diffraction**
T. Elsaesser and M. Woerner
J. Chem. Phys. **140**, 020901 (2014, invited paper)

425. **Femtosecond OH bending dynamics of water nanopools confined in reverse micelles**
R. Costard and T. Elsaesser
J. Phys. Chem. B **117**, 15338 (2013) (M. D. Fayer Festschrift)

424. **Field-driven dynamics of correlated electrons in LiH and $NaBH_4$ revealed by femtosecond x-ray diffraction**
V. Juvé, M. Holtz, F. Zamponi, M. Woerner, T. Elsaesser, and A. Borgschulte
Phys. Rev. Lett. **111**, 217401 (2013)

423. **Ultrafast two-dimensional infrared spectroscopy of guanine-cytosine base pairs in DNA oligomers**
C. Greve and T. Elsaesser
J. Phys. Chem. B **117**, 14009 (2013)

422. **Surface excitons on a ZnO (000-1) thin film**
S. Kuehn, S. Friede, S. Sadofev, S. Blumstengel, F. Henneberger, and T. Elsaesser
Appl. Phys. Lett. **103**, 191909 (2013)

421. **Microscopic origins of catastrophical optical damage in diode lasers**
M. Hempel. J. W. Tomm, F. La Mattina, I. Ratschinski, M. Schade, I. Shorubalko, M. Stiefel, H. S. Leipner, F. M. Kießling, and T. Elsaesser
IEEE J. Sel. Topics Quant. Electron. **19**,1500508 (2013)

420. **Ultrafast inter-ionic charge transfer of transition-metal complexes mapped by femtosecond x-ray powder diffraction**
B. Freyer, F. Zamponi, V. Juve, J. Stingl, M. Woerner, T. Elsaesser, and M. Chergui
J. Chem. Phys. **138**, 144504 (2013)

419. **Ultrafast vibrational dynamics of hydrogen bonded dimers and base pairs**
T. Elsaesser
in: Ultrafast Infrared Vibrational Spectroscopy, Ed. M. D. Fayer, Taylor & Francis, London 2013, ch. 2, p. 35-72

418. **Ultrafast two-dimensional terahertz spectroscopy of elementary excitations in solids**
M. Woerner, W. Kuehn, P. Bowlan, K. Reimann, and T. Elsaesser
New J. Phys. **15**, 025039 (2013)

417. **An environmental cell for transient spectroscopy on solid samples in controlled atmospheres**
J. Dwyer, Ł. Szyc, E. T. J. Nibbering, and T. Elsaesser
Rev. Sci. Instrum. **84**, 036101 (2013)

416. **N-H stretching vibrations of guanosine-cytidine base pairs in solution: uiltrafast dynamics, couplings amd lineshapes**
H. Fidder, M. Yang, E. T. J. Nibbering, T. Elsaesser, K. Röttger, and F. Temps
J. Phys. Chem. A **117**, 845 (2013)

415. **N-H stretching excitations in adenosine-thymidine base pairs in solution: pair geometries, infrared line shapes and ultrafast vibrational dynamics**
C. Greve, N. Prekretes, H. Fidder, R. Costard, B. Koeppe, I. Heisler, S. Mukamel, F. Temps, E. T. J. Nibbering, and T. Elsaesser
J. Phys. Chem. A **117**, 594 (2013)

414. **Photophysics of hydrogen bonded diarylethene dimers in the liquid phase**
S. Kuehn, S. Friede, M. Zastrow, K. Schiebler, K. Rueck-Braun, and T. Elsaesser
Chem. Phys. Lett. **555**, 206 (2013)

413. **Ultrafast structural and vibrational dynamics of the hydration shell around DNA**
T. Elsaesser, L. Szyc, and M. Yang
in: Ultrafast Phenomena XVIII, M. Chergui, A. Taylor, S. Cundiff, R. de Vivie-Riedle, K. Yamagouchi (Eds.), EDP Sciences, Les Ulis 2013, p. 06004/1-3

412. **Ultrafast vibrational dynamics of water confined in phospholipid reverse micelles**
R. Costard, C. Greve, N. E. Levinger, E. T. J. Nibbering, and T. Elsaesser
in: Ultrafast Phenomena XVIII, p. 06003/1-3 (2013)

411. **Ultrafast IR pump-probe and 2D-IR photon echo spectroscopy of adenosine-thymidine base pairs**
C. Greve, N. K. Preketes, R. Costard, B. Koeppe, H. Fidder, E. T. J. Nibbering, F. Temps, S. Mukamel, and T. Elsaesser
in: Ultrafast Phenomena XVIII, p. 05019/1-3 (2013)

410. **Ultrafast charge relocation in an ionic crystal probed by femtosecond x-ray powder diffraction**
M. Woerner, F. Zamponi, P. Rothhardt, J. Stingl, and T. Elsaesser
in: Ultrafast Phenomena XVIII, p. 03021/1-3 (2013)

409. **Femtosecond x-ray diffraction using the rotating crystal method**
B. Freyer, J. Stingl, F. Zamponi, M. Woerner, and T. Elsaesser
in: Ultrafast Phenomena XVIII, p. 12004/1-3 (2013)

408. **Ultrafast inter-ionic charge transfer of transition-metal complexes mapped by femtosecond x-ray powder diffraction**
F. Zamponi, B. Freyer, V. Juv , J. Stingl, M. Woerner, M. Chergui, and T. Elsaesser
in: Ultrafast Phenomena XVIII, p. 05046/1-3 (2013)

407. **Transition from ballistic to drift motion in high-field transport in GaAs**
P. Bowlan, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and C. Flytzanis
in: Ultrafast Phenomena XVIII, p. 04002/1-3 (2013)

406. **Ultrafast two-dimensional THz spectroscopy of graphene**
P. Bowlan, E. Martinez Moreno, K. Reimann, M. Woerner, and T. Elsaesser
in: Ultrafast Phenomena XVIII, p. 04024/1-2 (2013)

405. **Ultrafast energy dissipation into local hydration shells of phospholipids - a 2D infrared study**
R. Costard, C. Greve, I. A. Heisler, and T. Elsaesser
J. Phys. Chem. Lett. **3**, 3646 (2012)

404. **Ultrahigh single-spatial-mode pulses power from 980 nm emitting diode lasers**
M. Hempel, J. W. Tomm, T. Elsaesser, and M. Bettiati
Appl. Phys. Lett. **101**, 191105 (2012)

403. **Reconstruction of defect creation sequences in diode lasers**
M. Hempel, J. W. Tomm, V. Hortelano, N. Michel, J. Jimenez, M. Krakowski, and T. Elsaesser
Laser Photon. Rev. **6**, L15-L19 (2012)

402. **Strong-field electron transfer in a virtual quantum state mapped by femtosecond x-ray diffraction**
J. Stingl, F. Zamponi, B. Freyer, M. Woerner, T. Elsaesser, and A. Borgschulte
Phys. Rev. Lett. **109**, 147402 (2012)

401. **X-rays inspire electron movies**
M. J. J. Vrakking and T. Elsaesser
Nature Photon. **6**, 645 (2012, News and Views)

400. **N-H stretching modes of adenosine momomer in solution studied by ultrafast nonlinear infrared spectroscopy and ab-initio calculations**
C. Greve, N. K. Prekretes, R. Costard, B. Koeppe, H. Fidder, E. T. J. Nibbering, F. Temps, S. Mukamel, and T. Elsaesser
J. Phys. Chem. A **116**, 7636 (2012)

399. **Photophysics of closed- and open-ring isomers of a diarylethene with a carboxylic anchor group**
S. Kuehn, S. Friede, M. Zastrow, C. Gahl, K. Rueck-Braun, and T. Elsaesser
Chem. Phys. Lett. **542**, 94 (2012)

398. **Ultrafast vibrational dynamics of water confined in phospholipid reverse micelles**
R. Costard, N. E. Levinger, E. T. J. Nibbering, and T. Elsaesser
J. Phys. Chem. B **116**, 5752 (2012)

397. **Ultrafast soft-mode driven charge relocation in an ionic crystal**
F. Zamponi, J. Stingl, M. Woerner, and T. Elsaesser
Physical Chemistry Chemical Physics (PCCP) **14**, 6156 (2012)

396. **Nonlinear electron transport in an electron-hole plasma**
P. Bowlan, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and C. Flytzanis
Phys. Rev. B **85**, 165206 (2012)

395. **Ultrafast large-amplitude relocation of electronic charge in ionic crystals**
F. Zamponi, P. Rothhardt, J. Stingl, M. Woerner, T. Elsaesser
Proc. Nat. Acad. Sci. USA **109**, 5207 (2012)

394. **Vibrational dynamics of the water shell of DNA studied by femtosecond two-dimensional infrared spectroscopy**
M. Yang, L. Szyc, and T. Elsaesser
J. Photochem. Photobiol. A **234**, 49 (2012)

393. **Transient charge density maps from femtosecond x-ray diffraction**
T. Elsaesser and M. Woerner
in: Modern Charge Density Analysis, C. Gatti, P. Macchi (Eds.), Springer, New York 2012, pp. 697-714

392. **High-field transport in an electron-hole plasma: Transition from ballistic to drift motion**
P. Bowlan, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and C. Flytzanis
Phys. Rev. Lett. **107**, 256602 (2011)

391. **Near-field dynamics of broad area diode laser at very high pump levels**
M. Hempel, J. W. Tomm, M. Baeumler, H. Konstanzer, J. Mukherjee, and T. Elsaesser
AIP Advances **1**, 042148 (2011)

390. **Decelerated water dynamics and vibrational couplings of hydrated DNA mapped by two-dimensional infrared spectroscopy**
M. Yang, L. Szyc, and T. Elsaesser
J. Phys. Chem. B **115**, 13093 (2011)

389. **Ultrafast energy migration pathways in self-assembled phospholipids interacting with confined water**
N.E. Levinger, R. Costard, E. T. J. Nibbering, and T. Elsaesser
J. Phys. Chem. A **115**, 11952 (2011)

388. **Strong correlation of electronic and lattice excitations in GaAs/AlGaAs semiconductor quantum wells revealed by two-dimensional terahertz spectroscopy**
W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and U. Schade
Phys. Rev. Lett. **107**, 067401 (2011)

387. **Emission properties of diode laser bars during pulsed high-power operation**
M. Hempel, J. W. Tomm, P. Hennig, and T. Elsaesser
Semicond. Sci. Technol. **26**, 092001 (2011)

386. **Highly efficient THG in TiO_2 nanolayers for third-order pulse characterization**
S. K. Das, C. Schwenke, A. Pfuch, W. Seeber, M. Bock, G. Steinmeyer, T. Elsaesser, and R. Grunwald
Opt. Express **19**, 16985 (2011)

385. **The rotating-crystal method in femtosecond x-ray diffraction**
B. Freyer, J. Stingl, F. Zamponi, M. Woerner, and T. Elsaesser
Opt. Express **19**, 15506 (2011)

384. **Two-dimensional UV-vis/NMR correlation spectroscopy: a hetero-spectral signal assignment of hydrogen-bonded complexes**
B. Koeppe, P.M. Tolstoy, J. Guo, E.T.J. Nibbering, and T. Elsaesser
J. Phys. Chem. Lett. **2**, 1106 (2011)

383. **Two-dimensional terahertz correlation spectra of electronic excitations in semiconductor quantum wells**
W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
J. Phys. Chem. B **115**, 5448 (2011) (Mukamel Festschrift)

382. **Dynamics and couplings of N-H stretching excitations of guanosine-cytidine base pairs in solution**
M. Yang, L. Szyc, K. Röttger, H. Fidder, E.T.J. Nibbering, T. Elsaesser, and F. Temps
J. Phys. Chem. B **115**, 5484 (2011) (Mukamel Festschrift)

381. **Ultrafast nonequilibrium carrier dynamics in a single graphene layer**
M. Breusing, S. Kuehn, T. Winzer, E. Malic, F. Milde, N. Severin, J.P. Rabe, A. Knorr, and T. Elsaesser
Phys. Rev. B **83**, 153410 (2011)

380. **Defect evolution during catastrophic optical damage of diode lasers**
M. Hempel, F. La Matina, J.W. Tomm, U. Zeimer, R. Broennimann, and T. Elsaesser
Semicond. Sci. Techn. **26**, 075020 (2011, invited paper)

379. **Mechanisms and fast kinetics of the catastrophic optical damage (COD) in diode lasers**
J.W. Tomm, M. Ziegler, M. Hempel, and T. Elsaesser
Laser Photon. Rev. **5**, 422 (2011)

378. **High-resolution near-field optical investigation of crystalline domains in oligomeric PQT-12 thin films**
S. Kuehn, P. Pingel, M. Breusing, T. Fischer, J. Stumpe, D. Neher, and T. Elsaesser
Adv. Funct. Mat. **21**, 860 (2011)

377. **Femtosecond two-dimensional infrared spectroscopy of adenine-thymine base pairs in DNA oligomers**
M. Yang, L. Szyc, and T. Elsaesser
J. Phys. Chem. B **115**, 1262 (2011)

376. **Ultrafast dynamics of phosphate-water interactions in hydrated DNA**
L. Szyc, M. Yang, and T. Elsaesser
Ultrafast Phenomena XVII, M. Chergui et al. (Eds.), Oxford University Press, New York 2011, p. 493

375. **Ultrafast vibrational dynamics of hydrated DNA studied by 2D infrared spectroscopy**
M. Yang, L. Szyc, T. Elsaesser
Ultrafast Phenomena XVII, M. Chergui et al. (Eds.), New York 2011, p. 472

374. **Coherent energy transport between coupled quantum wells studied by two-dimensional terahertz spectroscopy**
W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
Ultrafast Phenomena XVII, M. Chergui et al. (Eds.), New York 2011, p. 299

373. **Ultrafast coherent high-field electron transport in GaAs**
W. Kuehn, P. Gaal, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
Ultrafast Phenomena XVII, M. Chergui et al. (Eds.), New York 2011, p. 317

372. **X-ray powder diffraction with femtosecond time resolution**
F. Zamponi, Z. Ansari, J. Dreyer, M. Woerner, T. Elsaesser
Ultrafast Phenomena XVII, M. Chergui et al. (Eds.), New York 2011, p. 340

371. **Catastrophic optical damage at front and rear facets of diode lasers**
M. Hempel, J. W. Tomm, M. Ziegler, T. Elsaesser, M. Michel, and M. Krakowski
Appl. Phys. Lett. **97**, 231101 (2010)

370. **The hydrogen bonded 2-pyridone dimer model system. 2. Femtosecond mid-infrared pump-probe study**
M. Yang, L. Szyc, J. Dreyer, E.T.J. Nibbering, and T. Elsaesser
J. Phys. Chem. A **114**, 12195 (2010)

369. **Nonlinear terahertz studies of ultrafast quasiparticle dynamics in semiconductors**
M. Woerner, and T. Elsaesser
in: Dynamics at solid state surfaces and interfaces, vol. 1, U. Bovensiepen, H. Petek, M. Wolf (Eds.), Wiley VCH, Weinheim 2010, p. 3

368. **Concerted electron and proton transfer in ionic crystals mapped by femtosecond x-ray powder diffraction**
M. Woerner, F. Zamponi, Z. Ansari, J. Dreyer, B. Freyer, M. Prémont-Schwarz, and T. Elsaesser
J. Chem. Phys. **133**, 064509/1-8 (2010)

367. **InGaAs tunnel-injection structures with nanobridges: excitation transfer and luminescence kinetics**
V.G. Talalaev, A.V. Senichev, B.V. Novikov, J.W. Tomm, T. Elsaesser, N.D. Zakharov, P. Werner, U. Gösele, Yu. B. Samsonenko, and G.E. Cirlin
Semiconductors **44**, 1050 (2010)

366. **THz-induced interband tunneling of electrons in GaAs**
W. Kuehn, P. Gaal, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
Phys. Rev. B **82**, 075204 (2010)

365. **Ultrafast spatio-temporal dynamics of terahertz generation by ionizing two-color femtosecond pulses in gases**
I. Babushkin, W. Kuehn, C. Köhler, S. Skupin, L. Berge, K. Reimann, M. Woerner, J. Herrmann, and T. Elsaesser
Phys. Rev. Lett. **105**, 053903 (2010)

364. **Physical limits of semiconductor laser operation - a time-resolved analysis of catastrophic optical damage**
M. Ziegler, M. Hempel, H.E. Larsen, J.W. Tomm, P.E. Andersen, S. Clausen, S.N. Elliott, and T. Elsaesser
Appl. Phys. Lett. **97**, 021110 (2010)

363. **Time-resolved analysis of catastrophic optical damage in 975 nm emitting diode lasers**
M. Hempel, M. Ziegler, J. W. Tomm, T. Elsaesser, N. Michel, and M. Krakowski
Appl. Phys. Lett. **96**, 251105 (2010)

362. **The hydrogen bonded 2-pyridone dimer model system. I. Combined NMR and FT-IR study**
L. Szyc, J. Guo, M. Yang, J. Dreyer, P.M. Tolstoy, E.T.J. Nibbering, B. Czarnik-Matusewicz, T. Elsaesser, and H.H. Limbach
J. Phys. Chem. A **114**, 7749 (2010)

361. **Ultrafast energy exchange via water-phosphate interactions in hydrated DNA**
L. Szyc, M. Yang, and T. Elsaesser
J. Phys. Chem. B **114**, 7951 (2010)

360. **Ultrafast vibrational dynamics and local interactions of hydrated DNA**
L. Szyc, M. Yang, E.T.J. Nibbering, and T. Elsaesser
Angewandte Chemie Int. Ed. **49**, 3598 (2010, invited paper)
German version: Angewandte Chemie **122**, 3680 (2010)

359. **Coherent ballistic motion of electrons in a periodic potential**
W. Kuehn, P. Gaal, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
Phys. Rev. Lett. **104**, 146602 (2010)

358. **Photoinduced structural dynamics of polar solids studied by femtosecond x-ray diffraction**
T. Elsaesser and M. Woerner
Acta Cryst. A **66**, 168 (2010, invited paper)

357. **Femtosecond powder diffraction with a laser-driven hard x-ray source**
F. Zamponi, Z. Ansari, M. Woerner, and T. Elsaesser
Opt. Express **18**, 947 (2010)

356. **Ultrafast structural dynamics of polar solids studied by femtosecond x-ray diffraction**
T. Elsaesser, C. von Korff Schmising, N. Zhavoronkov, M. Bargheer, M. Woerner, M. Braun, P. Gilch, W. Zinth, I. Vrejoiu, D. Hesse, and M. Alexe
Ultrafast Phenomena XVI, P. Corkum, S. de Silvestri, K.A. Nelson, E. Riedle, R.W. Schoenlein (Eds.), Springer, Berlin 2009, p. 101 (invited paper)

355. **Ultrafast vibrational dynamics of adenine-thymine base pairs in hydrated DNA**
J.R. Dwyer, L. Szyc, E.T.J. Nibbering, and T. Elsaesser
Ultrafast Phenomena XVI, Springer, Berlin 2009, p. 535

354. **Nano-confined light and electron sources driven by few-cycle optical pulses**
C.C. Neacsu, C. Ropers, T. Elsaesser, M. Albrecht, R. Olmon, M.B. Raschke, and C. Lienau
Ultrafast Phenomena XVI, Springer, Berlin 2009, p. 708

353. **Teasing a quasiparticle - the ultrafast nonlinear response of the Frohlich polaron in GaAs**
P. Gaal, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
Ultrafast Phenomena XVI, Springer, Berlin 2009, p. 188

352. **Rabi oscillations in a shallow donor system driven by intense THz radiation**
P. Gaal, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
Ultrafast Phenomena XVI, Springer, Berlin 2009, p. 657

351. **Femtosecond x-ray diffraction study of the ultrafast coupling between magnetization and structure in the ferromagnet $SrRuO_3$**
C. v. Korff Schmising, M. Bargheer, A. Harpoeth, N. Zhavoronkov, Z. Ansari, M. Woerner, T. Elsaesser, I. Vrejoiu, D. Hesse, and M. Alexe
Ultrafast Phenomena XVI, Springer, Berlin 2009, p. 107

350. **Ultrafast temperature jumps in liquid water studied by infrared pump and x-ray absorption probe spectroscopy**
G. Gavrila, P. Wernet, K. Godehusen, C. Weniger, E.T.J. Nibbering, T. Elsaesser, and W. Eberhardt
Ultrafast Phenomena XVI, P. Corkum, S. de Silvestri, K.A. Nelson, E. Riedle, R.W. Schoenlein (Eds.), Springer, Berlin 2009, p. 505

349. **Ultrafast memory loss and relaxation processes in hydrogen bonded systems**
T. Elsaesser
Biol. Chem. **390**, 1125 (2009) (invited paper)

348. **Two-dimensional infrared spectroscopy of intermolecular hydrogen bonds in the condensed phase**
T. Elsaesser
Acc. Chem. Res. **42**, 1220 (2009) (invited paper)

347. **Pathways for H_2O bend vibrational relaxation in liquid water**
R. Rey, F. Ingrosso, T. Elsaesser, and J.T. Hynes
J. Phys. Chem. A **113**, 8949 (2009)

346. **Ultrafast energy transfer from the intramolecular bending vibration to librations in liquid water**
F. Ingrosso, R. Rey, T. Elsaesser, and J. T. Hynes
J. Phys. Chem. A **113**, 6657 (2009)

345. **Ultrafast x-ray science: probing transient structures in condensed matter - Editorial**
T. Elsaesser
Appl. Phys. A **96**, 1 (2009)

344. **Time-resolved x-ray absorption spectroscopy of infrared-laser induced temperature jumps in liquid water**
G. Gavrila, K. Godehusen, C. Weniger, E. T. J. Nibbering, T. Elsaesser, W. Eberhardt, and P. Wernet
Appl. Phys. A **96**, 11 (2009)

343. **Femtosecond hard x-ray plasma sources with a kilohertz repetition rate**
F. Zamponi, Z. Ansari, C. v. Korff Schmising, P. Rothhardt, N. Zhavoronkov, M. Woerner, T. Elsaesser, M. Bargheer, T. Tobitzsch-Ryll, and M. Haschke
Appl. Phys. A **96**, 51 (2009)

342. **Ultrafast structural dynamics of perovskite superlattices**
M. Woerner, C. v. Korff Schmising, M. Bargheer, N. Zhavoronkov, I. Vrejoiu, D. Hesse, M. Alexe, and T. Elsaesser
Appl. Phys. A **96**, 83 (2009)

341. **Ultrafast x-ray experiments on structural changes in single crystals of polar molecules**
M. Braun, C. Root, F.J. Lederer, T.E. Schrader, W. Zinth, C. von Korff Schmising, M. Bargheer, T. Elsaesser, and M. Woerner
Appl. Phys. A **96**, 107 (2009)

340. **Catastrophic optical mirror damage in diode lasers monitored during single pulse operation**
M. Ziegler, J.W. Tomm, D. Reeber, T. Elsaesser, U. Zeimer, H.E. Larsen, P.M. Petersen, and P.E. Andersen
Appl. Phys. Lett. **94**, 191101 (2009)

339. **Phase-resolved two-dimensional spectroscopy based on collinear n-wave mixing in the ultrafast time domain**
W. Kuehn, K. Reimann, M. Woerner, and T. Elsaesser
J. Chem. Phys. **130**, 164503 (2009)

338. **Ultrafast redistribution of vibrational energy after excitation of NH stretching modes in DNA oligomers**
V. Kozich, L. Szyc, E.T.J. Nibbering, W. Werncke, and T. Elsaesser
Chem. Phys. Lett. **473**, 171 (2009)

337. **Ultrafast carrier dynamics in graphite**
M. Breusing, C. Ropers, and T. Elsaesser
Phys. Rev. Lett. **102**, 086809 (2009)

336. **Ultrafast dynamics of N-H and O-H stretching excitations in hydrated DNA oligomers**
L. Szyc, J.R. Dwyer, E.T.J. Nibbering, and T. Elsaesser
Chem. Phys. **357**, 36 (2009)

335. **Micro-thermography of diode lasers: the impact of light propagation on image formation**
J. LeClech, M. Ziegler, J. Mukherjee, J.W. Tomm, T. Elsaesser, J.P. Landesman, B. Corbett, J.G. McInerney, J.P. Reithmaier, S. Deubert, A. Forchel, W. Nakwaski, and R.P. Sarzala
J. Appl. Phys. **105**, 014502 (2009)

334. **Ultrafast phase-resolved pump-probe measurements on a quantum cascade laser**
W. Kuehn, W. Parz, P. Gaal, K. Reimann, M. Woerner, T. Elsaesser, T. Müller, J. Darmo, K. Unterrainer, M. Austerer, G. Strasser, L.R. Wilson, J.W. Cockburn, A.B. Krysa, and J.S. Roberts
Appl. Phys. Lett. **93**, 151106 (2008)

333. **Miniband-related 1.4-1.8 μm luminescence of Ge/Si quantum dot superlattices**
V. G. Talalaev, G. E. Cirlin, A. A. Tonkikh, N. D. Zakharov, P. Werner, U. Gösele, J. W. Tomm, and T. Elsaesser
in: Handbook of Self Assembled Semiconductor Nanostructures for Novel Devices in Photonics and Electronics, M. Henini ed. (Elsevier Science 2008) pp. 324-345

332. **An anchoring strategy for photoswitchable biosensor technology: azobenzene-modified SAMs on Si(111)**
P. Dietrich, F. Michalik, R. Schmidt, C. Gahl, G. Mao, M. Breusing, M. Raschke, B. Priwiesch, T. Elsaesser, R. Mendelsohn, M. Weinelt, and K. Rück-Braun
Appl. Phys. A **93**, 285 (2008)

331. **Ultrafast vibrational dynamics of adenine-thymine base pairs in DNA oligomers**
J.R. Dwyer, L. Szyc, E.T.J. Nibbering, and T. Elsaesser
J. Phys. Chem. B **112**, 11194 (2008)

330. **Ultrafast magnetostriction and phonon-mediated stress in a photoexcited ferromagnet**
C. v. Korff Schmising, A. Harpoeth, N. Zhavoronkov, Z. Ansari, C. Aku-Leh, M. Woerner, T. Elsaesser, M. Bargheer, M. Schmidbauer, I. Vrejoui, D. Hesse, M. Alexe
Phys. Rev. B **78**, 060404(R) (2008)

329. **Ultrafast temperature jump in liquid water studied by a novel infrared pump - x-ray probe technique**
P. Wernet, G. Gavrila, K. Godehusen, C. Weniger, E.T.J. Nibbering, W. Eberhardt
Appl. Phys. A **92**, 511 (2008) (invited paper)

328. **Light confinement at ultrasharp metallic tips**
C. Ropers, C.C. Neacsu, M.B. Raschke, M. Albrecht, C. Lienau, and T. Elsaesser
Jap. J. Appl. Phys. **47**, 6051 (2008)

327. **Ultrafast structural dynamics of hydrogen bonds in the liquid phase**
T. Elsaesser
L'Actualité Chimique **320/21**, 27 (2008)

326. **Carrier wave Rabi flopping on radiatively coupled shallow donor transitions in n-type GaAs**
P. Gaal, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
Phys. Rev. B **77**, 235204 (2008)

325. **Ultrafast coherent spectroscopy of semiconductor quantum dots**
C. Lienau and T. Elsaesser
in: Semiconductor Nanostructures, D. Bimberg (Ed.), Springer, Berlin 2008, p. 301-328

324. **Real-time studies of reversible lattice dynamics by femtosecond x-ray diffraction**
C. v. Korff Schmising, M. Bargheer, M. Woerner, and T. Elsaesser
Z. Kristallographie **223**, 283 (2008, invited paper)

323. **Cavity enhanced thermal emission from semiconductor lasers**
M. Ziegler, J.W. Tomm, T. Elsaesser, C. Monte, J. Hollandt, H. Kissel, J. Biesenbach
J. Appl. Phys. **103**, 104508 (2008)

322. **Surface recombination and facet heating in high-power diode lasers**
M. Ziegler, V. Talalaev, J.W. Tomm, T. Elsaesser, P. Ressel, B. Sumpf, G. Erbert
Appl. Phys. Lett. **92**, 203506 (2008)

321. **Visualization of the heat flow in high-power diode lasers by lock-in thermography**
M. Ziegler, J.W. Tomm, T. Elsaesser, G. Erbert, F. Bugge, W. Nakwaski, and R.P. Sarzala
Appl. Phys. Lett. **92**, 103513 (2008)

320. **Real-time thermal imaging of catastrophic optical damage in red-emitting high-power diode lasers**
M. Ziegler, J.W. Tomm, T. Elsaesser, C. Matthiesen, M.B. Sanayeh, and P. Brick
Appl. Phys. Lett. **92**, 103514 (2008)

319. **Accurate determination of absolute temperatures of GaAs based high-power diode lasers**
M. Ziegler, J.W. Tomm, F. Weik, T. Elsaesser, C. Monte, J. Hollandt, H. Kissel, G. Seibold, and J. Biesenbach
SPIE Proc. **6876**, 68761A (2008)

318. **Nonlinear terahertz and midinfrared response of n-type GaAs**
M. Woerner, P. Gaal, W. Kuehn, K. Reimann, T. Elsaesser, R. Hey, and K.H. Ploog
Adv. Solid State Phys. **47**, Springer Heidelberg, 2008, pp. 237-249

317. **Temperature dependence of the two-dimensional infrared spectrum of liquid H_2O**
D. Kraemer, M.L. Cowan, A. Paarmann, N. Huse, E.T.J. Nibbering, T. Elsaesser, and R.J.D. Miller
Proc. Nat. Acad. Sci. Am. **105**, 437 (2008)

316. **Internal motions of a quasiparticle governing its ultrafast nonlinear response**
P. Gaal, W. Kuehn, K. Reimann, M. Woerner, T. Elsaesser, and R. Hey
Nature **450**, 1210 (2007)

315. **Ultrafast structure and polarization dynamics in nanolayered perovskites studied by femtosecond x-ray diffraction**
C. v. Korff Schmiesing, M. Bargheer, M. Kiel, N. Zhavoronkov, M. Woerner, T. Elsaesser, I. Vrejoiu, D. Hesse, and M. Alexe
J. Phys. Conf. Ser. **92**, 012177 (2007)

314. **Coherent dynamics of hydrogen bonds in liquids studied by femtosecond vibrational spectroscopy**
T. Elsaesser
in: Coherent Vibrational Dynamics, S. de Silvestri, G. Cerullo, G. Lanzani (Eds.), Taylor & Francis, New York 2007, pp. 49-91

313. **Ultrafast vibrational dynamics and anharmonic couplings of hydrogen-bonded dimers in solution**
T. Elsaesser, N. Huse, J. Dreyer, J.R. Dwyer, K. Heyne, and E.T.J. Nibbering
Chem. Phys. **341**, 175 (2007)

312. **Ultrafast optical excitations of metallic nanostructures: from light confinement to a novel electron source**
C. Ropers, T. Elsaesser, G. Cerullo, M. Zavelani-Rossi, and C. Lienau
New J. Phys. **9**, 397 (2007)

311. **Grating coupling of surface plasmons onto metallic tips**
C. Ropers, C.C. Neacsu, T. Elsaesser, M. Albrecht, M.B. Raschke, and C. Lienau
Nano Lett. **7**, 2784 (2007)

310. **Coupled ultrafast lattice and polarization dynamics in ferroelectric nanolayers**
C. von Korff Schmising, M. Bargheer, M. Kiel, N. Zhavoronkov, M. Woerner, T. Elsaesser, I Vrejoiu, D. Hesse, and M Alexe
Phys. Rev. Lett. **98**, 257601 (2007)

309. **Accurate time delay determination for femtosecond x-ray diffraction experiments**
C. von Korff Schmising, M. Bargheer, M. Kiel, N. Zhavoronkov, M. Woerner, T. Elsaesser, I. Vrejoiu, D. Hesse, and M. Alexe
Appl. Phys. B **88**, 1 (2007)

308. **Mode-selective O-H stretching relaxation in a hydrogen bond studied by ultrafast vibrational spectroscopy**
W. Werncke, V. Kozich, J. Dreyer, S. Ashihara, and T. Elsaesser
Ultrafast Phenomena XV, P. Corkum, D. Jonas, R. J. D. Miller, A. M. Weiner (Eds.), Springer Berlin 2007, p. 448

307. **2D-IR photon echo spectroscopy of pure liquid water - combination of novel nanofluidics and diffractive optics deciphers ultrafast structural dynamics**
A. Paarmann, D. Kraemer, M.L. Cowan, B.D. Bruner, R.J.D. Miller, N. Huse, J. Dwyer, E.T.J. Nibbering, and T. Elsaesser
Ultrafast Phenomena XV, P. Corkum, D. Jonas, R. J. D. Miller, A. M. Weiner (Eds.), Springer Berlin 2007, p. 335

306. **Ultrafast relaxation dynamics in O-H bending and librational excitations in liquid H_2O**
S. Ashihara, N.Huse, E.T.J. Nibbering, and T. Elsaesser
Ultrafast Phenomena XV, P. Corkum, D. Jonas, R. J. D. Miller, A. M. Weiner (Eds.), Springer Berlin 2007, p. 436

305. **Femtosecond x-ray diffraction of DIABN single crystals**
M. Braun, C. Root, T.E. Schrader, P. Gilch, W. Zinth, M. Bargheer, C. v. Korff-Schmiesing, M. Kiel, N. Zhavoronkov, M. Woerner, and T. Elsaesser
Ultrafast Phenomena XV, P. Corkum, D. Jonas, R. J. D. Miller, A. M. Weiner (Eds.), Springer Berlin 2007, p. 725

304. **Probing strain propagation in nanolayered perovskites by diffraction of femtosecond x-ray pulses**
C. v. Korff-Schmiesing, M. Bargheer, M. Kiel, N. Zhavoronkov, M. Woerner, T. Elsaesser, I. Vrejoiu, D. Hesse, and M. Alexe
Ultrafast Phenomena XV, P. Corkum, D. Jonas, R. J. D. Miller, A. M. Weiner (Eds.), Springer Berlin 2007, p. 713

303. **Nonlinear THz spectroscopy on n-type GaAs**
P. Gaal, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and K.H. Ploog
Ultrafast Phenomena XV, P. Corkum, D. Jonas, R. J. D. Miller, A. M. Weiner (Eds.), Springer Berlin 2007, p. 799

302. **A nanometer-sized femtosecond electron source at 80 MHz repetition rate**
C. Ropers, D.R. Solli, C.P. Schulz, C. Lienau, and T. Elsaesser
Ultrafast Phenomena XV, P. Corkum, D. Jonas, R. J. D. Miller, A. M. Weiner (Eds.), Springer Berlin 2007, p. 743

301. **Ultrafast changes of molecular crystal structure induced by dipole solvation**
M. Braun, C. v. Korff-Schmising, M. Kiel, N. Zhavoronkov, J. Dreyer, M. Bargheer, T. Elsaesser, C. Root, T.E. Schrader, P. Gilch, W. Zinth, and M. Woerner
Phys. Rev. Lett. **98**, 248301 (2007)

300. **Simultaneous ultrafast probing of intramolecular vibrations and photoinduced charge carriers in rubrene using broadband time-domain THz spectroscopy**
M. Koeberg, E. Hendry, J.M. Schins, H. A. van Laarhoven, C. F. J. Flipse, K. Reimann, M. Woerner, T. Elsaesser, and M. Bonn
Phys. Rev. B **75**, 195216 (2007)

299. **Schwingende Nanoschichten im Röntgen-Stroboskop**
M. Bargheer, C. von Korff Schmising, M. Woerner, and T. Elsaesser
Physik in unserer Zeit **38**, 60 (2007)

298. **Vibrational dynamics of hydrogen bonds**
E. T. J. Nibbering, J. Dreyer, O. Kühn, J. Bredenbeck, P. Hamm, T. Elsaesser
in: Analysis and control of ultrafast photoinduced reactions, L. Wöste, O. Kühn (Eds.), Springer Heidelberg 2007, p. 597

297. **Ultrafast structural dynamics of water induced by dissipation of vibrational energy**
S. Ashihara, N. Huse, A. Espagne, E.T.J. Nibbering, and T. Elsaesser
J. Phys. Chem. A **111**, 743 (2007)

296. **Localized multiphoton emission of femtosecond electron pulses from metal nanotips**
C. Ropers, D.R. Solli, C.P. Schulz, C. Lienau, and T. Elsaesser
Phys. Rev. Lett. **98**, 043907 (2007)

295. **Transient thermal properties of high-power diode laser bars**
M. Ziegler, F. Weik, J.W. Tomm, T. Elsaesser, W. Nakwaski, R.P. Sarzala, D. Lorenzen, J. Meusel, and A. Kozlowska
Appl. Phys. Lett. **89**, 263506 (2006)

294. **Ultrafast dynamics of vibrational N-H stretching excitations in the 7-azaindole dimer**
J. R. Dwyer, J. Dreyer, E. T. J. Nibbering, and T. Elsaesser
Chem. Phys. Lett. **432**, 146 (2006)

293. **Ultrafast hole burning in intersubband absorption lines of GaN/AlN superlattices**
Z. Wang, K. Reimann, M. Woerner, T. Elsaesser, D. Hofstetter, E. Baumann, F.R. Giorgetta, H. Wu, W.J. Schaff, and L.F. Eastman
Appl. Phys. Lett. **89**, 151103 (2006)

292. **Excitation mechanisms of coherent phonons unravelled by femtosecond x-ray diffraction**
M. Bargheer, N. Zhavoronkov, J.C. Woo, D.S. Kim, M. Woerner, and T. Elsaesser
Phys. stat. sol. (b) **243**, 2389 (2006)

291. **Miniband-related 1.4 - 1.8 μm luminescence of Ge/Si quantum dot superlattices**
V.G. Talalaev, G.E. Girlin, A.A. Tonkikh, N.D. Zakharov, P. Werner, U. Gösele, J.W. Tomm, and T. Elsaesser
Nanoscale Res. Lett., DOI 10.1007/s11671-006-9004-x (17 pages, 2006)

290. **Mode-selective O-H stretching relaxation in a hydrogen bond studied by ultrafast vibrational spectroscopy**
V. Kozich, J. Dreyer, S. Ashihara, W. Werncke, and T. Elsaesser
J. Chem. Phys. **125**, 074504 (2006)

289. **High repetition rate ultrafast x-ray source from the femtosecond laser produced plasma**
N. Zhavoronkov, C. v. Korff Schmising, M. Bargheer, M. Woerner, T. Elsaesser, O. Klimo, and J. Limpouch
Journal de Physique **133**, 1201 (2006)

288. **Coherent low-frequency motions in condensed phase hydrogen bonding and transfer**
T. Elsaesser
in: Handbook of Hydrogen Transfer, R.L. Schowen, J.P. Klinman, J.T. Hynes, H.H. Limbach (Eds.), Wiley, Weinheim 2006, p. 459

287. **Strain propagation in nanolayered perovskites probed by ultrafast x-ray diffraction**
C. v. Korff Schmising, M. Bargheer, M. Kiel, N. Zhavoronkov, M. Woerner, T. Elsaesser, L, Vrejoiu, D. Hesse, and M. Alexe
Phys. Rev. B **73**, 212202 (2006)

286. **Ultrafast dynamics of intersubband excitations in quantum wells and quantum cascade structures**
T. Elsaesser
in: Intersubband transitions in quantum structures, R. Paiella (Ed.), McGraw Hill, New York 2006, p. 135.

285. **Vibrational couplings and ultrafast relaxation of the O-H bending mode in liquid H_2O**
S. Ashihara, N. Huse, A. Espagne, E.T.J. Nibbering, and T. Elsaesser
Chem. Phys. Lett. **424**, 66 (2006)

284. **Nonlinear THz response of n-type GaAs**
P. Gaal, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and K. Ploog
Phys. Rev. Lett. **96**, 187402 (2006)

283. **Phonon sidebands of intersubband absorption in AlGaN/GaN high-electron-mobility transistors**
Z. Wang, K. Reimann, M. Woerner, T. Elsaesser, D. Hofstetter, J. Hwang, W.J. Schaff, and L.F. Eastman
Physica E **32**, 562 (2006)

282. **Radiative coupling of intersubband transitions in GaAs/AlGaAs multiple quantum wells**
T. Shih, K. Reimann, M. Woerner, T. Elsaesser, I. Waldmller, A. Knorr, R. Hey, and K. H. Ploog,
Physica E **32**, 262 (2006)

281. **Recent progress in ultrafast x-ray diffraction**
M. Bargheer, N. Zhavoronkov, M. Woerner, and T. Elsaesser
Chem. Phys. Chem. **7**, 783 (2006, invited paper)

280. **Carrier dynamics in laterally strain-modulated InGaAs quantum wells**
V. Talalaev, J.W. Tomm, T. Elsaesser, U. Zeimer, J. Fricke, A. Knauer, H. Kissel, M Weyers, G.G. Tarasov, J. Grenzer, and U. Pietsch
Appl. Phys. Lett. **87**, 262103 (2005)

279. **Deep level emission from high-power diode laser bars detected by multispectral infrared imaging**
A. Kozlowska, P. Wawrzyniak, J.W. Tomm, F. Weik, and T. Elsaesser
Appl. Phys. Lett. **87**, 153503 (2005)

278. **Apertureless near-field vibrational imaging of block-copolymer nanostructures with ultrahigh spatial resolution**
M.B. Raschke, L. Molina, T. Elsaesser, D.H. Kim, W. Knoll, and K. Hinrichs
Chem. Phys. Chem. **6**, 2197 (2005)

277. **Generation of single-cycle THz transients with high electric field amplitudes**
T. Bartel, P. Gaal, K. Reimann, M. Woerner, and T. Elsaesser
Opt. Lett. **30**, 2805 (2005)

276. **Anharmonic couplings underlying ultrafast vibrational dynamics of hydrogen bonds in liquids**
N. Huse, B.D. Bruner, M.L. Cowan, J. Dreyer, E.T.J. Nibbering, R.J.D. Miller, and T. Elsaesser
Phys. Rev. Lett. **95**, 147402 (2005)

275. **Ultrafast vibrational relaxation of O-H bending and librational excitations in liquid H_2O**
N. Huse, S. Ashihara, E.T.J. Nibbering, and T. Elsaesser
Chem. Phys. Lett. **404**, 389 (2005)

274. **Ultrafast memory loss and energy redistribution in the hydrogen bond network of liquid H_2O**
M.L. Cowan, B.D. Bruner, N. Huse, B. Chugh, J. Dwyer, E.T.J. Nibbering, T. Elsaesser, and R.J.D. Miller
Nature **434**, 199 (2005)

273. **Cascaded energy redistribution upon O-H stretching excitation in an intramolecular hydrogen bond**
K. Heyne, M. Petkovic, E.T.J. Nibbering, O. Kühn, and T. Elsaesser
in: Ultrafast Phenomena XIV, T. Kobayashi et al. (Eds.), Springer, Berlin 2005, p. 389

272. **Phase-resolved nonlinear response of modulation-doped quantum wells under femtosecond intersubband excitation**
T. Shih, C.W. Luo, K. Reimann, M. Woerner, T. Elsaesser, I. Waldmüller, A. Knorr, R. Hey, and K.H. Ploog
in: Ultrafast Phenomena XIV, Springer, Berlin 2005, p. 292

271. **Heterodyne 2D-IR photon echo spectroscopy of multi-level OH stretching coherences in hydrogen bonds**
N. Huse, B.D. Bruner, M.L. Cowan, J. Dreyer, E.T.J. Nibbering, T. Elsaesser, and R.J.D. Miller
in: Ultrafast Phenomena XIV, T. Kobayashi et al. (Eds.), Springer, Berlin 2005, p. 407

270. **Nonlinear response of radiatively coupled intersubband transitions of quasi-two dimensional electrons**
T. Shih, K. Reimann, M. Woerner, T. Elsaesser, I. Waldmüller, A. Knorr, R.Hey, and K.H. Ploog
Phys. Rev. B **72**, 195338 (2005)

269. **Optical control of excitons in a pair of quantum dots coupled by the dipole-dipole interaction**
T. Unold, K. Mueller, C. Lienau, T. Elsaesser, A.D. Wieck
Phys. Rev. Lett. **94**, 137404 (2005)

268. **Comparison of focusing optics for femtosecond x-ray diffraction**
M. Bargheer, N. Zhavoronkov, R. Bruch, H. Legall, H. Stiel, M. Woerner, and T. Elsaesser
Appl. Phys. B **80**, 715 (2005)

267. **Optical phonon sidebands of electronic intersubband absorption in strongly polar semiconductor heterostructures**
Z. Wang, K. Reimann, M. Woerner, T. Elsaesser, D. Hofstetter, J. Hwang, W.J. Schaff, and L.F. Eastman
Phys. Rev. Lett. **94**, 037403 (2005)

266. **Generation of ultrashort K_α radiation from quasipoint interaction area of femtosecond pulses with thin films**
N. Zhavoronkov, Y. Gritsai, M. Bargheer, M. Woerner, and T. Elsaesser
Appl. Phys. Lett. **86**, 244107 (2005)

265. **Analysis of thermal images from diode lasers: temperature profiling and reliability screening**
A. Kozlowska, M. Latoszek, J.W. Tomm, F. Weik, T. Elsaesser, M. Zbroszczyk, M. Bugajski, B. Spellenberg, and M. Bassler
Appl. Phys. Lett. **86**, 203503 (2005)

264. **Microfocus Cu K_α source for femtosecond x-ray science**
N. Zhavoronkov, Y. Gritsai, M. Bargheer, M. Woerner, T. Elsaesser, F. Zamponi, I. Uschmann, and E. Förster
Opt. Lett. **30**, 1737 (2005)

263. **Ultrafast coherent spectroscopy of single semiconductor quantum dots**
C. Lienau, T. Unold, K. Mueller, T. Elsaesser
SPIE Proc. **5825**, 118 (2005)

262. **Coherent low-frequency motions of hydrogen-bonded acetic acid dimers in the liquid phase**
K. Heyne, N. Huse, J. Dreyer, E.T.J. Nibbering, T. Elsaesser, and S. Mukamel
J. Chem. Phys. **121**, 902 (2004)

261. **Development of an applicator for multiphoton PDT**
G. Graschew, M. Bastian, S. Rakowsky, T.A. Roelofs, E. Balanos, P.M. Schlag, G. Steinmeyer, and T. Elsaesser
SPIE Proc. **5463**, 68 (2004)

260. **Coherent vs. incoherent charge transport in semiconductor quantum cascade structures**
M. Woerner, F. Eickemeyer, K. Reimann, T. Elsaesser, S. Barbieri, C. Sirtori, T. Mueller, R. Bratschitsch, K. Unterrainer, and G. Strasser
SPIE Proc. **5352**, 333 (2004)

259. **Femtosecond near-field spectroscopy of single quantum dots**
C. Lienau, T. Guenther, T. Unold, K. Mueller, and T. Elsaesser
SPIE Proc. **5352**, 16 (2004)

258. **Cascaded energy redistribution upon O-H stretching excitation in an intramolecular hydrogen bond**
K. Heyne, E.T.J. Nibbering, T. Elsaesser, M. Petkovic, and O. Kühn
J. Phys. Chem. A **108**, 6083 (2004)

257. **Femtosecond mid-infrared spectroscopy of low-energy excitations in solids**
T. Elsaesser
Appl. Phys. A **79**, 1627 (2004)

256. **Sub-picosecond efficient laser driven hard X-ray source operated at a kHz repetition rate**
N. Zhavoronkov, Y. Gritsai, G. Korn, and T. Elsaesser
Appl. Phys. B **79**, 663 (2004)

255. **Coherent atomic motions in a nanostructure studied by femtosecond x-ray diffraction**
M. Bargheer, N. Zhavoronkov, Y. Gritsai, J.C. Woo, D.S. Kim, M. Woerner, and T. Elsaesser
Science **306**, 1771 (2004)

254. **Ultrafast structural changes in condensed matter**
T. Elsaesser
Humboldt Spektrum, Heft 3/4, 106 (2004)

253. **Coherent charge transport in semiconductor quantum cascade structures**
M. Woerner, K. Reimann, and T. Elsaesser
J. Phys.: Condensed Matter **16**, R25 (2004) (invited review)

252. **Nonlinear terahertz spectroscopy of semiconductor nanostructures**
C.W. Luo, K. Reimann, M. Woerner, and T. Elsaesser
Appl. Phys. A **78**, 435 (2004)

251. **Optical Stark effect in a quantum dot: Ultrafast polarization control of single excitons**
T. Unold, K. Müller, C. Lienau, T. Elsaesser, S. Eshlaghi, and A. Wieck
Phys. Rev. Lett. **92**, 157401 (2004)

250. **Near-field autocorrelation spectroscopy of disordered semiconductor quantum wells**
C. Lienau, F. Intonti, T. Guenther, T. Elsaesser, V. Savona, R. Zimmermann, and E. Runge
Phys. Rev. B **69**, 085302 (2004)

249. **Rabi oscillations of intersubband transitions in GaAs/AlGaAs MQWs**
C.W. Luo, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and K.H. Ploog
Semicond. Sci. Technol. **19**, S285 (2004)

248. **Space and time resolved coherent optical spectroscopy of single quantum dots**
T. Unold, K. Mueller, C. Lienau, and T. Elsaesser
Semicond. Sci. Technol. **19**, S260 (2004)

247. **Femtosecond intersubband dynamics of electrons in AlGaN/GaN high-electron-mobility transistors**
Z. Wang, K. Reimann, M. Woerner, T. Elsaesser, D. Hofstetter, J. Hwang, W.J. Schaff, amd L.F. Eastman
Semicond. Sci. Technol. **19**, S463 (2004)

246. **Ultrafast vibrational dynamics of hydrogen bonds in the condensed phase**
E.T.J. Nibbering, and T. Elsaesser
Chem. Rev. **104**, 1887 (2004, invited review)

245. **Device deformation during low-frequency pulsed operation of high-power diode bars**
A. Gerhardt, F. Weik, T. QuocTran, J.W. Tomm, T. Elsaesser, J. Biesenbach, H. Müntz, G. Seibold, and M.L. Biermann
Appl. Phys. Lett. **84**, 3525 (2004)

244. **Phase-resolved nonlinear response of a two-dimensional electron gas under femtosecond intersubband excitation**
C.W. Luo, K. Reimann, M. Woerner, and T. Elsaesser
Phys. Rev. Lett. **92**, 047402/1-4 (2004)

243. **Ultrafast vibrational dynamics of hydrogen-bonded dimers in solution**
T. Elsaesser, K. Heyne, N. Huse, and E.T.J. Nibbering
in: Ultrafast molecular events in chemistry and biology, M.M. Martin, J.T. Hynes (Eds.), Elsevier, Amsterdam 2004, p.157

242. **Optical dephasing of coherent intersubband transitions in a quasi-two-dimensional electron gas**
I. Waldmüller, J. Förstner, S.C. Lee, A. Knorr, M. Woerner, K. Reimann, R.A. Kaindl, T. Elsaesser, R. Hey, and K.H. Ploog
Phys. Rev. B **69**, 205307 (2004)

241. **High repetition rate femtosecond laser driven hard X-ray source and its application for diffraction experiments**
N. Zhavoronkov, Y. Gritsai, P. Micheev, A. Savelev, G. Korn, and T. Elsaesser
in: Ultrafast Optics IV, F. Krausz, G. Korn, P. Corkum, and I.A. Walmsley (Eds.), Springer Verlag, Berlin 2004, p. 323

240. **A mid-infrared photon echo study of liquid water**
J. Stenger, D. Madsen, P. Hamm, E.T.J. Nibbering, and T. Elsaesser
in: Ultrafast Phenomena XIII, R.J.D. Miller, M.M. Murnane, N.F. Scherer, A.M. Weiner (Eds.), Springer Berlin 2003, p. 577

239. **Ultrafast site-specific mid-infrared spectroscopy of excited-state intramolecular proton transfer**
M. Rini, A. Kummrow, J. Dreyer, E.T.J. Nibbering, and T. Elsaesser
in: Ultrafast Phenomena XIII, R.J.D. Miller, M.M. Murnane, N.F. Scherer, A.M. Weiner (Eds.), Springer Berlin 2003, p. 465

238. **Ultrafast coherent electron transport in quantum cascade structures**
F. Eickemeyer, K. Reimann, M. Woerner, T. Elsaesser, S. Barbieri, C. Sirtori, G. Strasser, T. Müller, R. Bratschitsch, and K. Unterrainer
in: Ultrafast Phenomena XIII, R.J.D. Miller, M.M. Murnane, N.F. Scherer, A.M. Weiner (Eds.), Springer Berlin 2003, p. 356

237. **Ultrafast coherent spectroscopy of a single quantum dot**
T. Guenther, C. Lienau, T. Elsaesser, M. Glanemann, V.M. Axt, T. Kuhn, S. Eshlagi, and A.D. Wieck
in: Ultrafast Phenomena XIII, R.J.D. Miller, M.M. Murnane, N.F. Scherer, A.M. Weiner (Eds.), Springer Berlin 2003, p. 345 (invited paper)

236. **Coherent vibrational dynamics of intermolecuar hydrogen bonds in acetic acid dimers studied by ultrafast mid-infrared spectroscopy**
K. Heyne, N. Huse, E.T.J. Nibbering, and T. Elsaesser
J. Phys. C: Cond. Matter **15**, S129 (2003)

235. **Ultrafast relaxation and anharmonic coupling of O-H stretching and bending excitations in cyclic acetic acid dimers**
K. Heyne, N. Huse, E.T.J. Nibbering, and T. Elsaesser
Chem. Phys. Lett. **382**, 19 (2003)

234. **Transient luminescence of dense InAs/GaAs quantum dot arrays**
J.W. Tomm, Y.I. Mazur, G.G. Tarasov, Z.Ya. Zhuchenko, H. Kissel, W.T. Masselink, and T. Elsaesser
Phys. Rev. B **67**, 045326 (8 pages, 2003)

233. **KHz sources of hard x-ray and fast ions with femtosecond laser plasmas**
A. Thoss, M. Richardson, G. Korn, M. Faubel, H. Stiel, U. Voigt, and T. Elsaesser
J. Opt. Soc. Am. B **20**, 224 (2003)

232. **Direct field-resolved detection of THz transients with megavolt/cm amplitudes**
K. Reimann, R.P. Smith, A.M. Weiner, T. Elsaesser, and M. Woerner
Opt. Lett. **28**, 471 (2003)

231. **Vibrational multi-level coherences due to anharmonic couplings in intermolecular hydrogen bonds**
N. Huse, K. Heyne, J. Dreyer, E.T.J. Nibbering, and T. Elsaesser
Phys. Rev. Lett. **91**, 197401 (2003)

230. **Ultrafast vibrational relaxation processes induced by intramolecular excited state hydrogen transfer**
M. Rini, J. Dreyer, E.T.J. Nibbering, and T. Elsaesser
Chem. Phys. Lett. **374**, 13 (2003)

229. **Ultrafast intersubband dynamics in quantum wells and quantum cascade structures**
T. Elsaesser, F. Eickemeyer, R.A. Kaindl, K. Reimann, and M. Woerner
Proc. Int. School Phys. Enrico Fermi, Course CL, B. Deveaud, A. Quattropani, P. Schwendimann (Eds.), IOS Press, Amsterdam 2003, p. 249

228. **Ultrafast coherent and incoherent dynamics of intersubband excitations in semiconductor quantum wells**
T. Elsaesser, R.A. Kaindl, F. Eickemeyer, K. Reimann, M. Woerner, R. Hey, C. Miesner, K. Brunner, and G. Abstreiter
SPIE Proc. **4992**, 154 (2003)

227. **Coherent nonlinear optical response of single quantum dots studied by ultrafast near-field spectroscopy: reply to comment**
T. Guenther, C. Lienau, T. Elsaesser, M. Glanemann, T. Kuhn
Phys. Rev. Lett. **90**, 139702 (2003)

226. **Ultrafast coherent nuclear motions of hydrogen bonded carboxylic acid dimers**
K. Heyne, N. Huse, E.T.J. Nibbering, and T. Elsaesser
Chem. Phys. Lett. **369**, 591 (2003)

225. **Femtosecond mid-infrared photon-echo study of an intramolecular hydrogen bond**
J. Stenger, D. Madsen, J. Dreyer, P. Hamm, E.T.J. Nibbering, and T. Elsaesser
Chem. Phys. Lett. **354**, 256 (2002)

224. **A photon echo peak shift study of liquid water**
J. Stenger, D.Madsen, P. Hamm, E.T.J. Nibbering, and T. Elsaesser
J. Phys. Chem. A **106**, 2341 (2002)

223. **Ultrafast optical nonlinearity of low-temperature grown GaInAs/AlInAs quantum wells at wavelengths around 1.55 μm**
K. Biermann, D. Nickel, K. Reimann, M. Woerner, T. Elsaesser, and H. Künzel
Appl. Phys. Lett. **80**, 1936 (2002)

222. **Minority-carrier kinetics in heavily doped GaAs:C analyzed by transient photoluminescence spectroscopy**
A. Maaßdorf, S. Gramlich, E. Richter, F. Brunner, M. Weyers, G. Tränkle, J.W. Tomm,Y.I. Mazur, D. Nickel, V. Malyarchuk, T. Günther, C. Lienau, A. Bärwolff, and T. Elsaesser
J. Appl. Phys. **91**, 5072 (2002)

221. **Group-velocity matched interactions in hollow waveguides**
A. Nazarkin, M. Wittmann, G. Korn, and T. Elsaesser
Phys. Rev. A **65**, 041802(R) (2002)

220. **Ultrafast coherent electron transport in GaAs/AlGaAs quantum cascade structures**
F. Eickemeyer, K. Reimann, M. Woerner, T. Elsaesser, S.C. Lee, A. Wacker, S. Barbieri, C. Sirtori, and J. Nagle
Physica B **314**, 314 (2002) (invited paper)

219. **Femtosecond intersubband scattering of holes in $Si_{1-x}Ge_x$/Si quantum wells**
R.A. Kaindl, M. Woerner, M. Wurm, K. Reimann, T. Elsaesser, C. Miesner, K. Brunner, and G. Abstreiter
Physica B **314**, 255 (2002)

218. **Coherent nonlinear dynamics of intersubband excitations in a two-dimensional electron gas**
M. Woerner, R.A. Kaindl, F. Eickemeyer, K. Reimann, T. Elsaesser, A.M. Weiner, R. Hey, and K.H. Ploog
Physica B **314**, 244 (2002)

217. **All-linear control of attosecond pulse generation**
A. Nazarkin, G. Korn, and T. Elsaesser
Opt. Commun. **203**, 403 (2002)

216. **Ultrafast dynamics hydrogen bonds in the liquid phase: Vibrational Quantum Beats and Dephasing**
J. Stenger, D. Madsen, J. Dreyer, E.T.J. Nibbering, P. Hamm, and T. Elsaesser
in: Femtochemistry and Femtobiology: Ultrafast Dynamics in Molecular Science, A. Douhal, J. Santamaria (Eds.), World Scientific, Singapore 2002, p. 169

215. **A 1 kHz femtosecond laser plasma hard x-ray source**
G. Korn, A. Thoss, M. Faubel, H. Stiel, U. Voigt, M. Richardson, and T. Elsaesser
Opt. Lett. **27**, 866 (2002)

214. **Near-field optical imaging and spectroscopy of single GaAs quantum wires**
V. Emiliani, F. Intonti, C. Lienau, T. Elsaesser, R. Nötzel, and K.H. Ploog
phys. stat. sol. (a) **190**, 749 (2002)

213. **Level repulsion of localized excitons in disordered quantum wells**
V. Savona, E. Runge, R. Zimmermann, F. Intonti, V. Emiliani, C. Lienau, and T. Elsaesser
phys. stat. sol. (a) **190**, 625 (2002)

212. **Ultrafast intramolecular electron transfer studied by picosecond and stationary Raman spectroscopy**
W. Werncke, S. Wachsmann-Hogiu, J. Dreyer, A. Vodtchits, and T. Elsaesser
Bull. Jap. Chem. Soc. **75**, 1049 (2002)

211. **Femtosecond mid-infrared pump-probe study of wave packet motion in a medium-strong intramolecular hydrogen bond**
D. Madsen, J. Stenger, J. Dreyer, E.T.J. Nibbering, and T. Elsaesser
Bull. Jap. Chem. Soc. **75**, 909 (2002) (headline paper)

210. **Ultrafast Intersubband scattering of holes in p-type modulation-doped $Si_{1-x}Ge_x$/Si multiple quantum wells**
M. Woerner, R.A. Kaindl, M. Wurm, K. Reimann, T. Elsaesser, C. Miesner, K. Brunner, and G. Abstreiter
Physica E **13**, 485 (2002)

209. **Ultrafast coherent nonlinear dynamics of intersubband excitations in a quasi-two-dimensional electron gas**
M. Woerner, R.A. Kaindl, F. Eickemeyer, K. Reimann, T. Elsaesser, R. Hey, and K. Ploog
Physica E **13**, 477 (2002)

208. **Quantum mechanical repulsion of exciton levels in a disordered quantum well evidenced by near-field spectroscopy**
F. Intonti, V. Emiliani, C. Lienau, T. Elsaesser, V. Savona, E. Runge, R. Zimmermann, R. Nötzel, and K.H. Ploog
Physica E **13**, 178 (2002)

207. **Vibrational excitation and energy redistribution after ultrafast internal conversion in 4-nitroaniline**
V. Kozich, W. Werncke, J. Dreyer, M. Rini, A. Kummrow, and T. Elsaesser
J. Chem. Phys. **117**, 719 (2002)

206. **Coherent nonlinear optical response of single quantum dots studied by ultrafast near-field spectroscopy**
T. Guenther, C. Lienau, T. Elsaesser, M. Glanemann, T. Kuhn, S. Eshlaghi, and A. Wieck
Phys. Rev. Lett. **89**, 057401; Erratum: Phys. Rev. Lett. **89**, 179901 (2002)

205. **Ultrafast coherent electron transport in semiconductor quantum cascade structures**
F. Eickemeyer, K. Reimann, M. Woerner, T. Elsaesser, S. Barbieri, C. Sirtori, G. Strasser, T. Müller, R. Bratschitsch, and K. Unterrainer
Phys. Rev. Lett. **89**, 047402 (2002)

204. **Simultaneous quantification of strain and defects in high-power diode laser devices**
J.W. Tomm, A. Gerhardt, T. Elsaesser, D. Lorenzen, and P. Hennig
Appl. Phys. Lett. **81**, 3269 (2002)

203. **Femtosecond mid-infrared spectroscopy of condensed-phase hydrogen-bonded systems as a probe of structural dynamics**
M. Rini, A. Kummrow, J. Dreyer, E.T.J. Nibbering, and T. Elsaesser
Faraday Discussions **122**, 27 (2002)

202. **Near-field spectroscopy of disordered nanostructures**
C. Lienau, F. Intonti, T. Guenther, V. Emiliani, and T. Elsaesser
phys. stat. sol. (b) **234**, 453 (2002) (invited paper)

201. **kHz femtosecond laser plasma X-ray and ion source**
A. Thoss, G. Korn, M. C. Richardson, M. Faubel, H. Stiel, U. Vogt, C. W. Siders, and T. Elsaesser
in: Superstrong fields in plasmas: Second international conference on superstrong fields in plasmas, M. Lontano, G. Mourou, O. Svelto, T. Tajima (Eds.), AIP Proc. **611**, New York 2002, p. 353

200. **Ultrafast dynamics of hydrogen bonding and proton transfer in the condensed phase**
T. Elsaesser, and H.J. Bakker
in: Ultrafast hydrogen bonding dynamics and proton transfer processes in the condensed phase, T. Elsaesser, H.J. Bakker (Eds.), Kluwer, Dordrecht 2002, pp. 1-4.

199. **Ultrafast excited state hydrogen transfer in the condensed phase**
T. Elsaesser
in: Ultrafast hydrogen bonding dynamics and proton transfer processes in the condensed phase, T. Elsaesser, H.J. Bakker (Eds.), Kluwer, Dordrecht 2002, pp. 119-153.

198. **Femtosekundenspektroskopie**
T. Elsaesser
in: Brockhaus Naturwissenschaften und Technik, Mannheim 2002 (2 pages)

197. **Ultrafast nonequilibrium dynamics of intersubband excitations in quasi-two-dimensional semiconductors**
M. Woerner, and T. Elsaesser
in: Ultrafast Processes in Semiconductors, K.T. Tsen (Ed.), Springer, New York 2001, p. 93-160

196. **Quantum mechanical repulsion of exciton levels in a disordered quantum well**
F. Intonti, V. Emiliani, C. Lienau, T. Elsaesser, V. Savona, E. Runge, R. Zimmermann, R. Nötzel, and K.H. Ploog
Phys. Rev. Lett. **87**, 076801 (2001)

195. **Near-field optical imaging and spectroscopy of a novel coupled quantum wire – dot structure**
V. Emiliani, F. Intonti, C. Lienau, T. Elsaesser, R. Nötzel, and K.H. Ploog
Phys. Rev. B **64**, 155316 (2001, 9 pages)

194. **Coherent response of hydrogen bonds in liquids probed by ultrafast vibrational spectroscopy**
J. Stenger, D. Madsen, J. Dreyer, E.T.J. Nibbering, P. Hamm, and T. Elsaesser
J. Phys. Chem. A **105**, 2929 (2001)

193. **Homogeneous broadening of intersubband transitions by ultrafast Coulomb scattering in a quasi-two-dimensional electron gas**
R.A. Kaindl, K. Reimann, M. Woerner, T. Elsaesser, R. Hey, and K.H. Ploog
Phys. Rev. B **63**, 161308(R) (2001)

192. **Low-temperature near-field luminescence studies of localized and delocalized excitons in quantum wires**
F. Intonti, V. Emiliani, C. Lienau, T. Elsaesser, R. Nötzel, and K.h. Ploog
J. Microsc. **202**, 193 (2001)

191. **Coherent vibrational ground state dynamics of an intramolecular hydrogen bond**
D. Madsen, J. Stenger, J. Dreyer, E.T.J. Nibbering, P. Hamm, and T. Elsaesser
Chem. Phys. Lett. **341**, 56 (2001)

190. **Ultrafast vibrational dephasing of liquid water**
J. Stenger, D. Madsen, P. Hamm, E.T.J. Nibbering, and T. Elsaesser
Phys. Rev. Lett. **87**, 027401 (4 pages, 2001)

189. **Coherent nonlinear propagation of ultrashort electric field transients through intersubband resonances**
F. Eickemeyer, M. Woerner, A.M. Weiner, T. Elsaesser, R. Hey, and K.H. Ploog
Appl. Phys. Lett. **79**, 165 (2001)

188. **Ultrafast dynamics of intersubband excitations in a quasi-two-dimensional hole gas**
R.A. Kaindl, M. Wurm, K. Reimann, M. Woerner, T. Elsaesser, C. Miesner, K. Brunner, and G. Abstreiter
Phys. Rev. Lett. **86**, 1122 (2001)

187. **Ultrafast intramolecular electron transfer studied by stationary vibrational and time-resolved resonance Raman spectroscopy combined with ab-initio calculations**
S. Wachsmann-Hogiu, W. Werncke, J. Dreyer, A.I. Vodchits, K.W. Brzezinka, and T. Elsaesser
Recent Res. Devel. Chem. Physics **2**, 61 (2001)

186. **Near-field optical spectroscopy of localized and delocalized excitons in a single GaAs quantum wire**
F. Intonti, V. Emiliani, C. Lienau, T. Elsaesser, R. Nötzel, and K. Ploog
Phys. Rev. B **63**, 075313 (5 pages, 2001)

185. **Low-temperature MBE growth and characteristics of InP-based AlInAs/GaInAs MQW structures**
H. Kuenzel, K. Biermann, D. Nickel, and T. Elsaesser
J. Cryst. Growth **227**, 284 (2001)

184. **Spatially resolved small-angle non-collinear interferometric autocorrelation of ultrashort pulses with micro-axicon arrays**
R. Grunwald, U. Griebner, E.T.J. Nibbering, A. Kummrow, T. Elsaesser, V. Kebbel, H.J. Hartmann, and W. Jüptner
J. Opt. Soc. Am. B **18**, 2923 (2001)

183. **Laser spectroscopy**
T. Elsaesser
in: European White Book on Fundamental Research in Materials Science, M. Rühle, H. Dosch, E.J. Mittemeijer, M.H. Van de Voorde (Eds.), Max-Planck-Institut für Metallforschung, Stuttgart 2001, p. 259-262

182. **Ultrafast coherent and incoherent dynamics of intersubband excitations in GaAs/AlGaAs and SiGe/Si quantum wells**
T. Elsaesser, R.A. Kaindl, K. Reimann, M. Woerner, C. Miesner, K. Brunner, G. Abstreiter, R. Hey, and K.H. Ploog
Narrow Gap Semiconductors and Related Small Energy Phenomena, IPAP Conf. Ser. **2**, 111 (2001)

181. **Ultrafast mid-infrared response of $YBa_2Cu_3O_{7-\delta}$**
R.A. Kaindl, M. Woerner, T. Elsaesser, D.C. Smith, J.F. Ryan, G.A. Farnan, M.P. McCurry, and D.G. Walmsley
Science **287**, 470 (2000)

180. **Introduction of a 60 fs deactivation channel in the photosynthetic antenna LH1 by Ni-bacteriopheophytin a**
L. Fiedor, H. Scheer, N.C. Hunter, F. Tschirschwitz, B. Voigt, J. Ehlert, E.T.J. Nibbering, D. Leupold, and T. Elsaesser
Chem. Phys. Lett. **319**, 145 (2000)

179. **Trendbericht Physikalische Chemie 1999 - Ultrakurzzeitspektroskopie**
T. Elsaesser
Nachrichten aus der Chemie **48**, 317 (2000)

178. **Near field optical spectroscopy of confined excitons**
C. Lienau, V. Emiliani, T. Guenther, F. Intonti, T. Elsaesser, R. Nötzel, and K. Ploog
phys. stat. sol. (a) **178**, 471 (2000)

177. **Facet degradation of high-power diode laser arrays**
J.W. Tomm, E. Thamm, A. Baerwolff, T. Elsaesser, J. Luft, M. Baeumler, K.S. Mueller, W. Jantz, I. Rechenberg, and G. Erbert
Appl. Phys. A **70**, 377 (2000)

176. **Femtochemistry of hydrogen bonded complexes after electronic excitation in the liquid phase: the case of coumarin 102**
E.T.J Nibbering, F. Tschirschwitz, and T. Elsaesser
J. Phys. Chem. A **104**, 4236 (2000)

175. **Time-resolved near-field optical spectroscopy of single semiconductor quantum wires**
T. Elsaesser, V. Emiliani, T. Guenther, F. Intonti, C. Lienau, R. Nötzel, and K.H. Ploog
SPIE Proc. **3940**, 206 (2000)

174. **Selective excitation and photoinduced bleaching of defects in InAlGaAs/GaAs high-power diode lasers**
J.W. Tomm, A. Bärwolff, T. Elsaesser, and J. Luft
Appl. Phys. Lett. **77**, 747 (2000)

173. **Generation of femtosecond Bessel beams with micro-axicon arrays**
R. Grunwald, U. Griebner, F. Tschirschwitz, E.T.J. Nibbering, T. Elsaesser, V. Kebbel, H.J. Hartmann, and W. Jüptner
Opt. Lett. **25**, 981 (2000)

172. **Mode specific vibrational excitations and energy relaxation after ultrafast intramolecular electron transfer**
S. Hogiu, W. Werncke, J. Dreyer, M. Pfeiffer, and T. Elsaesser
J. Chem. Phys. **113**, 1587 (2000)

171. **Large electrically induced transmission changes of GaAs/AlGaAs quantum cascade structures**
F. Eickemeyer, R.A. Kaindl, M. Woerner, T. Elsaesser, S. Barbieri, P. Kruck, C. Sirtori, and J. Nagle
Appl. Phys. Lett. **76**, 3254 (2000)

170. **Strained InGaAs/GaPAsSb heterostructures grown on GaAs (001) for optoelectronic applications in the 1100 to 1550 nm range**
W. Braun, P. Dowd, C.Z. Guo, S.L. Chen, C.M. Ryu, U. Koelle, S.R. Johnson, Y.H. Zhang, J.W. Tomm, T. Elsaesser, and D.J. Smith
J. Appl. Phys. **88**, 3004 (2000)

169. **Ultrafast structural response of hydrogen bonded complexes after electronic excitation**
E.T.J. Nibbering, and T. Elsaesser
Appl. Phys. B **71**, 439 (2000)

168. **Controlled shaping of ultrafast electric field-transients in the mid-infrared spectral range**
F. Eickemeyer, R.A. Kaindl, M. Woerner, T. Elsaesser, and A.M. Weiner
Opt. Lett. **25**, 1472 (2000)

167. **Ultrafast charge transfer studied by femtosecond infrared spectroscopy and ab-initio calculations**
A. Kummrow, J. Dreyer, C. Chudoba, J. Stenger, E.T.J. Nibbering, and T. Elsaesser
J. Chin. Chem. Soc. **47**, 721 (2000)

166. **Spatially and temporally resolved near-field scanning optical microscopy studies of semiconductor quantum wires**
C. Lienau, and T. Elsaesser
in: Ultrafast Physical Processes in Semiconductors, K.T. Tsen (Ed.), Academic Press, San Diego 2000, pp. 39-108

165. **Ultrafast Phenomena XII**
T. Elsaesser, S. Mukamel, M.M. Murnane, N.F. Scherer (Eds.)
Springer Verlag, Berlin 2000

164. **Ultrafast near-field pump-probe spectroscopy of quasi-one-dimensional transport in a single quantum wire**
V. Emiliani, T. Guenther, C. Lienau, T. Elsaesser, R. Nötzel, and K. Ploog
in: Ultrafast Phenomena XII, T. Elsaesser, S. Mukamel, M.M. Murnane, N.F. Scherer (Eds.) Springer Verlag 2000, p. 256

163. **Femtosecond intersubband dynamics of holes in p-type SiGe/Si multiple quantum wells**
R.A. Kaindl, M. Wurm, K. Reimann, M. Woerner, T. Elsaesser, C. Miesner, K. Brunner, and G. Abstreiter
in: Ultrafast Phenomena XII, Springer Verlag 2000, p. 369

162. **Femtosecond mid-infrared study of the high-T_c superconductor $YBa_2Cu_3O_{7-\delta}$**
M. Woerner, R.A. Kaindl, T. Elsaesser, D.C. Smith, J.F. Ryan, G.A. Farnan, M.P. McCurry, and D.G. Walmsley
in: Ultrafast Phenomena XII, Springer Verlag 2000, p. 428

161. **Ultrafast coherent response of hydrogen bonds**
J. Stenger, D. Madsen, J. Dreyer, E.T.J. Nibbering, P. Hamm, and T. Elsaesser
in: Ultrafast Phenomena XII, Springer Verlag 2000, p. 542

160. **Femtosecond mid-infrared study of $YBa_2Cu_3O_{7-\delta}$**
R.A. Kaindl, M. Woerner, T. Elsaesser, D.C. Smith, J.F. Ryan, G.A. Farnan, M.P. McCurry, and D.G. Walmsley
Physica C **341-348**, 2213 (2000)

159. **Near-field scanning optical spectroscopy of quasi-one-dimensional semiconductor nanostructures**
C. Lienau, V. Emiliani, T. Guenther, F. Intonti, T. Elsaesser, R. Nötzel, and K.H. Ploog
in: Frontiers of nano-optoelectronic systems: Molecular scale engineering and processes, L. Pavesi, E. Buzaneva (eds.), NATO ASI Series 2000, Kluwer, p. 377

158. **Coherent motion of low-frequency vibrations in ultrafast excited state proton transfer**
M. Pfeiffer, C. Chudoba, A. Lau, K. Lenz, and T. Elsaesser
Laser Chemistry **19**, 101 (1999)

157. **Direct spectroscopic measurement of packaging-induced strains in high-power laser diode arrays**
J.W. Tomm, R. Müller, A. Bärwolff, M. Neuner, T. Elsaesser, D. Lorenzen, F.X. Daiminger, A. Gerhardt, and J. Donecker
Proc. SPIE **3626**,138 (1999)

156. **Ultrafast structural response of hydrogen bonded complexes after electronic excitation in the condensed phase**
C. Chudoba, E.T.J. Nibbering, and T. Elsaesser
J. Phys. Chem. A **103**, 5625 (1999)

155. **Spectroscopic measurement of packaging-induced strains in quantum well laser diodes**
J.W. Tomm, R. Müller, A. Bärwolff, T. Elsaesser, A. Gerhardt, J. Donecker, D. Lorenzen, F.X. Daiminger, S. Weiss, M. Hutter, E. Kaulfersch, and H. Reichl
J. Appl. Phys. **86**, 1196 (1999)

154. **Time-resolved near-field optics: Exciton transport in semiconductor nanostructures**
A. Richter, M. Süptitz, D. Heinrich, C. Lienau, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K.H. Ploog
J. Microscopy **194**, 393 (1999)

153. **Spatially and temporally resolved near-field spectroscopy of single GaAs quantum wires**
V. Emiliani, T. Günther, F. Intonti, A. Richter, C. Lienau, and T. Elsaesser
J. Phys. Condens. Matter **11**, 5889 (1999)

152. **Femtosecond near-field spectroscopy of a single GaAs quantum wire**
T. Guenther, V. Emiliani, F. Intonti, C. Lienau, T. Elsaesser, R. Noetzel, and K. Ploog
Appl. Phys. Lett. **75**, 3500 (1999)

151. **Mode specific vibrational kinetics after intramolecular electron transfer studied by picosecond anti-Stokes Raman spectroscopy**
S. Hogiu, W. Werncke, M. Pfeiffer, and T. Elsaesser
Chem. Phys. Lett. **312**, 407 (1999)

150. **Generation of multiple phase-locked Stokes and anti-Stokes components in an impulsively excited Raman medium**
A. Nazarkin, G. Korn, M. Wittmann, and T. Elsaesser
Phys. Rev. Lett. **83**, 2560 (1999)

149. **Femtosecond infrared spectroscopy of semiconductors and semiconductor nanostructures**
T. Elsaesser, and M. Woerner
Phys. Reports **321**, 253 (1999)

148. **Broadband phasematched difference frequeny mixing of femtosecond pulses in GaSe: experiment and theory**
R.A. Kaindl, F. Eickemeyer, M. Woerner, and T. Elsaesser
Appl. Phys. Lett. **75**, 1060 (1999)

147. **Excited state structure of 4-(dimethylamino)benzonitrile studied by femtosecond mid-infrared spectroscopy and ab-initio calculations**
C. Chudoba, A. Kummrow, J. Dreyer, J. Stenger, E.T.J. Nibbering, T. Elsaesser, and K.A. Zachariasse
Chem. Phys. Lett. **309**, 357 (1999)

146. **Picosecond and femtosecond near-field optical spectroscopy of carrier dynamics in semiconductor nanstructures**
C. Lienau, V. Emiliani, T. Günther, F. Intonti, and T. Elsaesser
Physica B **272**, 96 (1999)

145. **Hydrogen bond dynamics and solvation of electronically excited states as determined by femtosecond vibrational spectroscopy**
E.T.J. Nibbering, C. Chudoba, and T. Elsaesser
Israel J. Chem. **39**, 333 (1999)

144. **Carrier trapping into single GaAs quantum wires studied by near-field spectroscopy in a broad temperature range**
A. Richter, M. Süptitz, Ch. Lienau, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K. Ploog
Ultramicroscopy **71**, 205 (1998)

143. **Mapping of the local confinement potential in semiconductor nanostructures by near-field optical spectroscopy**
C. Lienau, A. Richter, G. Behme, M. Süptitz, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K.H. Ploog
phys. stat. sol (b) **206**, 153 (1998)

142. **Coherent inter-valence band polarizations in bulk GaAs studied on a sub-100 fs time scale**
M. Joschko, M. Woerner, T. Elsaesser, E. Binder, T. Kuhn, R. Hey, H. Kostial, and K. Ploog
phys. stat. sol. (b) **206**, 299 (1998)

141. **Nanoscale mapping of confinement potentials in single semiconductor quantum wires by near-field optical spectroscopy**
Ch. Lienau, A. Richter, G. Behme, M. Süptitz, D. Heinrich, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K.H. Ploog
Phys. Rev. B **58**, 2045 (1998)

140. **Optical probes as tools for investigation of aging properties of high-power diode arrays**
J.W. Tomm, A. Baerwolff, R. Puchert, A. Jaeger, and T. Elsaesser
SPIE Proc. **3244**, 576 (1998)

139. **Ultrafast coherent and incoherent dynamics of intersubband excitations in quasi-two-dimensional semiconductors**
T. Elsaesser, R. Kaindl, S. Lutgen, M. Woerner, A. Hase, and H. Kuenzel
SPIE Proc. **3277**, 2 (1998) (invited paper)

138. **Ultrafast coherent dynamics of impulsively excited inter-valence band polarizations in bulk GaAs**
M. Joschko, M. Woerner, T. Elsaesser, E. Binder, T. Kuhn, R. Hey, H. Kostial, and K. Ploog
OSA Trends in Optics and Photonics Series **18**, 80 (1998)

137. **Ultrafast dephasing of coherent intersubband polarizations in a quasi-two-dimensional electron plasma**
R.A. Kaindl, S. Lutgen, M. Woerner, T. Elsaesser, B. Nottelmann, V.M. Axt, T. Kuhn, A. Hase, and H. Künzel
Phys. Rev. Lett. **80**, 3575 (1998)

136. **Femtosecond infrared pulses tunable from 9 to 18 μm at 88 MHz repetition rate**
R.A. Kaindl, D.C. Smith, M. Joschko, M.P. Hasselbeck, M. Woerner, and T. Elsaesser
Opt. Lett. **23**, 861 (1998)

135. **Deep level spectroscopy of high power laser diode arrays**
J.W. Tomm, A. Bärwolff, A. Jaeger, T. Elsaesser, J. Bollmann, W.T. Masselink, A. Gerhardt, and J. Donecker
J. Appl. Phys. **84**, 1325 (1998)

134. **Excitonic and free carrier quantum beats created by femtosecond excitation at the band edge of GaAs**
M. Joschko, M. Hasselbeck, M. Woerner, T. Elsaesser, R. Hey, H. Kostial, and K. Ploog
Phys. Rev. B **58**, 10470 (1998)

133. **Exciton transport into a single GaAs quantum wire studied by picosecond near-field optical spectroscopy**
A. Richter, M. Süptitz, D. Heinrich, C. Lienau, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K. Ploog
Appl. Phys. Lett. **73**, 2176 (1998)

132. **Site-specific excited state solute-solvent interactions probed by femtosecond vibrational spectroscopy**
C. Chudoba, E.T.J. Nibbering, and T. Elsaesser
Phys. Rev. Lett. **81**, 3010-3013 (1998)

131. **Direct spectroscopic measurement of thermally induced strain in high-power optoelectronic devices**
J.W. Tomm, R. Müller, A. Bärwolff, T. Elsaesser, D. Lorenzen, F.X. Daiminger, A. Gerhardt, and J. Donecker
Appl. Phys. Lett. **73**, 3908 (1998)

130. **Ultrafast Phenomena XI**
T. Elsaesser, J.G. Fujimoto, D.A. Wiersma, and W. Zinth (Eds.)
Springer Verlag, Berlin 1998

129. **Dynamics of site-specific excited state solute-solvent interactions as probed by femtosecond vibrational spectroscopy**
C. Chudoba, E.T.J. Nibbering, and T. Elsaesser
in: Ultrafast Phenomena XI, Springer, Berlin 1998, p. 535

128. **Time-resolved near-field spectroscopy of the carrier dynamics in single GaAs nanostructures**
C. Lienau, A. Richter, D. Heinrich, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K.H. Ploog
in: Ultrafast Phenomena XI, Springer, Berlin 1998, p. 168

127. **Ultrafast pump-probe signals at the band edge of bulk GaAs: excitonic versus free carrier contributions**
M. Joschko, M.P. Hasselbeck, M. Woerner, T. Elsaesser, R. Hey, H. Kostial, and K.H. Ploog
in: Ultrafast Phenomena XI, Springer, Berlin 1998, p. 257

126. **Generation of high repetition rate femtosecond infrared pulses tunable from 9 to 18 μm**
R.A. Kaindl, D.C. Smith, M.P. Hasselbeck, M. Woerner, and T. Elsaesser
in: Ultrafast Phenomena XI, Springer, Berlin 1998, p. 66

125. **Femtosecond mid-infrared spectroscopy of carrier dynamics in high-T_c superconductors**
R.A. Kaindl, D.C. Smith, M. Woerner, C. Stevens, J.F. Ryan and T. Elsaesser
in: Ultrafast Phenomena XI, Springer, Berlin 1998, p. 368

124. **Frequency doubling and autocorrelation studies of 20 fs pulses using polycrystalline zinc oxide thin films**
U. Griebner, R.A. Kaindl, T. Elsaesser, and W. Seeber
Appl. Phys. B **67**, 757 (1998)

123. **Laser in neuen Anwendungen: Entwicklungsgeschichte, Potentiale, Perspektiven**
T. Elsaesser, I.V. Hertel, and W. Sandner
Spektrum der Wissenschaften, Dossier 2/1998, p. 6

122. **Real-space transfer and trapping of carriers into a single GaAs quantum wire studied by near-field optical spectroscopy**
A. Richter, M. Süptitz, Ch. Lienau, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K.H. Ploog
Phys. Rev. Lett. **79**, 2145 (1997)

121. **Analysis of the vibrational spectra of heterocyclic aromatic molecules showing internal proton and deuterium transfer**
M. Pfeiffer, K. Lenz, A. Lau, T. Elsaesser, and T. Steinke
J. Raman Spectrosc. **28**, 61 (1997)

120. **Monitoring of aging properties of AlGaAs high-power laser arrays**
J.W. Tomm, A. Bärwolff, U. Menzel, M. Voss, R. Puchert, T. Elsaesser, F.X. Daiminger, S. Heinemann, and J. Luft
J. Appl. Phys. **81**, 2059 (1997)

119. **Near-field optical spectroscopy of single GaAs quantum wires**
A. Richter, C. Lienau, T. Elsaesser, M. Ramsteiner, R. Nötzel, and K. Ploog
Surface and Interface Analysis **25**, 583 (1997)

118. **Laser based facet inspection system**
J.W. Tomm, A. Bärwolff, Ch. Lier, T. Elsaesser, F.X. Daiminger, S. Heinemann
SPIE Proc. **3000**, 90 (1997)

117. **Aging behavior of high-power laser arrays monitored by photocurrent spectroscopy**
J.W. Tomm, A. Bärwolff, U. Menzel, C. Lier, T. Elsaesser, F.X. Daiminger, and S. Heinemann
SPIE Proc. **3004**, 134 (1997)

116. **Heavy-light hole quantum beats in the band-to-band continuum of GaAs observed in 20 femtosecond pump-probe experiments**
M. Joschko, M. Woerner, T. Elsaesser, R. Hey, H. Kostial, and K. Ploog
Phys. Rev. Lett. **78**, 737 (1997)

115. **Near-field optical beam induced current spectroscopy as tool for analyzing aging processes in diode lasers**
J.W. Tomm, A. Richter, Ch. Lienau, T. Elsaesser, and J. Luft
SPIE Proc. **3001**, 29 (1997)

114. **Anharmonicity effects in the resonance Raman spectra of heterocyclic aromatic molecules showing photoinduced intramolecular proton transfer**
M. Pfeiffer, A. Lau, K. Lenz, and T. Elsaesser
Chem. Phys. Lett. **268**, 258 (1997)

113. **Aging properties of high power laser diode arrays analyzed by Fourier transform photo-current measurements**
J.W. Tomm, A. Jaeger, A. Bärwolff, T. Elsaesser, A. Gerhardt, and J. Donecker
Appl. Phys. Lett. **71**, 2233 (1997)

112. **Near-field optical spectroscopy of carrier exchange between quantum wells and single GaAs quantum wires**
A. Richter, G. Behme, M. S´uptitz, Ch. Lienau, T. Elsaesser, R. Nötzel, M. Ramsteiner, and K. Ploog
phys. stat. sol. (b) **204**, 247 (1997)

111. **Ultrafast dynamics of nonlinear intersubband absorption in n-type modulation-doped GaInAs/AlInAs quantum wells**
R.A. Kaindl, S. Lutgen, M. Woerner, T. Elsaesser, A. Hase, and H. Künzel
phys. stat. sol. (b) **204**, 212 (1997)

110. **Coherent intersubband polarizations in a quasi-two-dimensional electron plasma studied by femtosecond four-wave-mixing in the mid-infrared**
R.A. Kaindl, S. Lutgen, M. Woerner, T. Elsaesser, A. Hase, and H. Künzel
phys. stat. sol. (b) **204**, 27 (1997)

109. **Ultrafast dynamics of coherent inter-valence band polarizations in bulk GaAs studied with 20 fs pulses**
M. Joschko, M. Woerner, T. Elsaesser, E. Binder, T. Kuhn, R. Hey, H. Kostial, and K. Ploog
phys. stat. sol. (b) **204**, 23 (1997)

108. **Time resolved emission studies of GaAs/AlGaAs laser diode arrays on different heat sinks**
M. Voss, C. Lier, U. Menzel, A. Bärwolff, and T. Elsaesser
J. Appl. Phys. **79**, 1170 (1996)

107. **Coherent optical generation of non-equilibrium electrons studied via band-to-acceptor luminescence in GaAs**
A. Leitenstorfer, T. Elsaesser, F. Rossi, T. Kuhn, W. Klein, G. Boehm, G. Traenkle, and G. Weimann
Phys. Rev. B **53**, 9876 (1996)

106. **Second-order nonlinearities of polycrystalline molecular films studied on a 20 fs time scale**
T. Jentzsch, H.J. Jüpner, S.H. Ashworth, and T. Elsaesser
Opt. Lett. **21**, 492 (1996)

105. **Tunable two-color spectrometer with sub-20 fs pump and probe pulses**
E. Riedle, S.H. Ashworth, M. Joschko, M. Woerner, and T. Elsaesser
in : Femtochemistry : Ultrafast Chemical and Physical Processes in Molecular Systems, M. Chergui (Ed.), World Scientific, Singapore 1996, p.680

104. **Two-color spectroscopy of the vibrational and vibronic dynamics of large molecules in solution with 20 fs optical pulses**
E. Riedle, S.H. Ashworth, T. Hasche, M. Woerner, and T. Elsaesser
in : Femtochemistry : Ultrafast Chemical and Physical Processes in Molecular Systems, M. Chergui (Ed.), World Scientific, Singapore 1996, p.521

103. **Trendbericht Physikalische Chemie 1995 - Ultrakurzzeitspektroskopie**
T. Elsaesser
Nachr. Chem. Tech. Lab. **44**, 198 (1996)

102. **Vibronic excitations of large molecules studied by two-color pump-probe experiments on the 20 fs time scale**
S.H. Ashworth, T. Hasche, M. Woerner, E. Riedle, and T. Elsaesser
J. Chem. Phys. **104**, 5761 (1996)

101. **Light-induced expansion of fiber tips in nearfield scanning optical microscopy**
Ch. Lienau, A. Richter, and T. Elsaesser
Appl. Phys. Lett. **69**, 325 (1996)

100. **The role of coherence in the photogeneration process of hot carriers**
T. Kuhn, F. Rossi, A. Leitenstorfer, T. Elsaesser, W. Klein, G. Boehm, G. Traenkle, and G. Weimann
in : Hot Carriers in Semiconductors, Eds. K. Hess, J.P. Leburton, U. Ravailoli, Plenum, New York 1996, p. 199

99. **Time resolved dynamics of holes in p-type germanium photoexcited by femtosecond infrared pulses**
M.T. Portella-Oberli, W. Frey, C. Ludwig, M. Woerner, T. Elsaesser, and W. Kaiser
Brasilian J. Phys. **26**, 520 (1996)

98. **Ultrafast dynamics of electronic excitations in semiconductors**
T. Elsaesser, A. Leitenstorfer, T. Kuhn, and F. Rossi
Progr. Crystal Growth and Characterization **33**, 41 (1996)

97. **Nonequilibrium dynamics in a quasi-two-dimensional electron plasma after ultrafast intersubband excitation**
S. Lutgen, R. Kaindl, M. Woerner, T. Elsaesser, A. Hase, H. Künzel, M. Gulia, D. Meglio, and P. Lugli
Phys. Rev. Lett. **77**, 3657 (1996)

96. **Nearfield optical microscopy of polarization bistable semiconductor lasers**
Ch. Lienau, A. Richter, A. Klehr, and T. Elsaesser
Appl. Phys. Lett. **69**, 2471 (1996)

95. **Intersubband scattering and thermalization of electrons in quantum wells studied with mid-infrared femtosecond pulses**
M. Woerner, S. Lutgen, R.A. Kaindl, T. Elsaesser, A. Hase, and H. Künzel
Ultrafast Phenomena X, P.F. Barbara, J.G. Fujimoto, W.H. Knox, W. Zinth (Eds.), Springer, Berlin 1996, p. 395 (invited paper)

94. **Heavy-light hole quantum beats in the band-to-band continuum of bulk GaAs studied in 20 fs pump-probe experiments**
M. Joschko, M. Woerner, T. Elsaesser, R. Hey, H. Kostial, and K. Ploog
Ultrafast Phenomena X, Springer, Berlin 1996, p. 385

93. **Coherent and incoherent dynamics of large molecules in solution studied on a 20 fs time scale**
E. Riedle, T. Hasche, S.H. Ashworth, M. Woerner, and T. Elsaesser
Ultrafast Phenomena X, Springer, Berlin 1996, p. 282

92. **Facet heating and thermal behavior of GaAs/AlGaAs high power laser arrays studied in spatially resolved micro-Raman measurements**
R. Puchert, A. Bärwolff, U. Menzel, A. Lau, M. Voss, and T. Elsaesser
J. Appl. Phys. **80**, 5559 (1996)

91. **Nonlinear intersubband absorption of a hot quasi-two dimensional electron plasma studied by femtosecond infrared spectroscopy**
S. Lutgen, R.A. Kaindl, M. Woerner, T. Elsaesser, A. Hase, and H. Künzel
Phys. Rev. B **54**, R17343 (1996)

90. **Vibrational coherence in ultrafast excited state proton transfer**
C. Chudoba, E. Riedle, M. Pfeiffer, and T. Elsaesser
Chem. Phys. Lett. **263**, 622 (1996)

89. **Fast recombination processes in lead chalcogenide semiconductors studied via transient optical nonlinearities**
R. Klann, T. Höfer, R. Buhleier, T. Elsaesser, and J.W. Tomm
J. Appl. Phys. **77**, 277 (1995)

88. **Polarization mode dynamics in strained 1.3 μm InGaAsP/InP lasers under picosecond current modulation**
A. Klehr, R. Müller, P. Enders, M. Voß, and T. Elsaesser
Opt. Commun. **118**, 323 (1995)

87. **Ultrafast thermalization of holes in p-type tetrahedral semiconductors: Theory and Experiment**
M. Woerner, and T. Elsaesser
Phys. Rev. B **51**, 17490 (1995)

86. **Transient states of an intramolecular proton transfer cycle studied by degenerate four-wave-mixing**
T. Höfer, P. Kruck, T. Elsaesser, and W. Kaiser
J. Phys. Chem. **99**, 4380 (1995)

85. **Stimulated emission in multi-valley lead salts with star degeneracy lifted by strain and magnetic fields**
J.W. Tomm, K.H. Herrmann, M. Mocker, T. Kelz, T. Elsaesser, R. Klann, B.V. Novikov, V.G. Talalaev, V.E. Todorovskii, and H. Böttner
Inst. Phys. Conf. Ser. **144**, 135 (1995)

84. **Resonance Raman studies of heterocyclic aromatic compounds showing ultrafast intramolecular proton transfer**
M. Pfeiffer, K. Lenz, A. Lau, and T. Elsaesser
J. Raman Spectrosc. **26**, 607 (1995)

83. **Vibrational and vibronic dynamics of large molecules in solution studied on a 20 femtosecond time scale**
T. Hasche, S.H. Ashworth, E. Riedle, M. Woerner, and T. Elsaesser
Chem. Phys. Lett. **244**, 164 (1995)

82. **Femtosecond studies of vibrationally hot molecules produced by intramolecular proton transfer in the excited state**
C. Chudoba, S. Lutgen, T. Jentzsch, E. Riedle, M. Woerner, and T. Elsaesser
Chem. Phys. Lett. **240**, 35 (1995)

81. **Generation of 16 fs pulses by extra-cavity frequency doubling of a mode-locked Ti:sapphire laser**
S.H. Ashworth, M. Joschko, M. Woerner, E. Riedle, and T. Elsaesser
Opt. Lett. **20**, 2120 (1995)

80. **Threshold of stimulated emission in multi-valley lead salts**
J.W. Tomm, M. Mocker, T. Kelz, T. Elsaesser, R. Klann, B.V. Novikov, V.G. Talalaev, V.E. Tudorovskii, and H. Böttner
J. Appl. Phys. **78**, 7247 (1995)

79. **Femtosecond intramolecular proton transfer in hydrogen-bonded systems**
T. Elsaesser
in: Ultrafast Reaction Dynamics and Solvent Effects, Eds. Y. Gauduel, P. Rossky, American Institute of Physics, New York 1994, p. 240

78. **Relaxation processes of hot holes in Ge and GaAs investigated by ultrafast infrared spectroscopy**
T. Elsaesser, M. Woerner, M.T. Portella, W. Frey, C. Ludwig, and A. Lohner
Semiconductor Science and Technology **9**, 689 (1994)

77. **Coherent excitonic and free carrier polarizations of bulk GaAs studied by femtosecond photon-echo spectroscopy**
A. Lohner, K. Rick, P. Leisching, T. Elsaesser, T. Kuhn, F. Rossi, and W. Stolz
Semiconductor Science and Technology **9**, 425 (1994)

76. **Ultrafast thermalization of nonequilibrium holes in p-type germanium studied by femtosecond infrared spectroscopy**
M. Woerner, W. Frey, M.T. Portella, C. Ludwig, T. Elsaesser, and W. Kaiser
Phys. Rev. B **49**, 17007 (1994)

75. **Coherent excitonic and free carrier dynamics in bulk GaAs and heterostructures**
T. Kuhn, E. Binder, F. Rossi, A. Lohner, K. Rick, P. Leisching, A. Leitenstorfer, T. Elsaesser, and W. Stolz
in: Coherent Optical Interactions in Semiconductors, Ed. R.T. Phillips, Plenum Press, New York 1994, p. 33

74. **Femtosecond intramolecular proton transfer in the condensed phase**
T. Elsaesser
in : Femtosecond Chemistry, Eds. J. Manz and L. Wöste, Verlag Chemie, Verlag Chemie, Weinheim 1994, p. 563

73. **Excitonic and free carrier polarizations of bulk GaAs studied by femtosecond coherent spectroscopy**
A. Leitenstorfer, A. Lohner, K. Rick, P. Leisching, T. Elsaesser, T. Kuhn, F. Rossi, W. Stolz, and K. Ploog
Phys. Rev. B **49**, 16372 (1994)

72. **Ultrafast coherent generation of hot electrons studied via band-to- acceptor luminescence in GaAs**
A. Leitenstorfer, A. Lohner, T. Elsaesser, S. Haas, F. Rossi, T. Kuhn, W. Klein, G. Boehm, G. Traenkle, and G. Weimann
Phys. Rev. Lett. **73**, 1687 (1994)

71. **Resonance Raman and femtosecond absorption studies of vibrational relaxation initiated by ultrafast intramolecular proton transfer**
K. Lenz, M. Pfeiffer, A. Lau, and T. Elsaesser
Chem. Phys. Lett. **229**, 340 (1994)

70. **Ultrafast thermalization of hot holes studied by femtosecond infrared spectroscopy**
M. Woerner, T. Elsaesser, C. Ludwig, M.T. Portella, W. Frey, and W. Kaiser
Lietuvos fizikos zurnalas **34**, 126 (1994)

69. **Nonequilibrium dynamics of holes in p-type germanium studied by femtosecond infrared spectroscopy**
M. Woerner, T. Elsaesser, C. Ludwig, M.T. Portella, W. Frey, and W. Kaiser
in : Ultrafast Phenomena IX, Eds. G.A. Mourou et al., Springer, Berlin 1994, p. 383

68. **Femtosecond coherent spectroscopy of excitonic and free-carrier polarizations in bulk GaAs**
T. Elsaesser, A. Leitenstorfer, A. Lohner, P. Leisching, T. Kuhn, and F. Rossi
Ultrafast Phenomena IX, p. 366

67. **Femtosecond coherent generation of hot electrons monitored via band-to-acceptor luminescence in GaAs**
A. Leitenstorfer, T. Elsaesser, T. Kuhn, S. Haas, and F. Rossi
Ultrafast Phenomena IX, p. 358

66. **Ultrafast recombination processes in lead chalcogenide semiconductors studied via picosecond optical nonlinearities**
R. Klann, T. Höfer, R. Buhleier, T. Elsaesser, and A. Lambrecht
Semicond. Sci. Technol. **8**, S305 (1993)

65. **Ultrafast thermalization of photoexcited carriers in polar semiconductors**
L. Rota, P. Lugli, T. Elsaesser, and J. Shah
Phys. Rev. B **47**, 4226 (1993)

64. **Hot carriers in semiconductors studied via picosecond optical nonlinearities in the infrared**
T. Elsaesser, and W. Kaiser
in : Frontiers in Nonlinear Optics, the Sergei Akhmanov Memorial Volume, eds. H. Walther,N. Koroteev, and M.O. Scully, Hilger, Bristol 1993, p. 84

63. **Femtosecond proton transfer in the electronic ground state of vibrationally hot molecules**
T. Elsaesser, W. Frey, and M.T. Portella
Ultrafast Phenomena VIII, Eds. J.-L. Martin, A. Migus, G.A. Mourou, A.H. Zewail, Springer New York 1993, p. 589

62. **Hot hole capture by shallow acceptors in p-type GaAs studied by picosecond infrared spectroscopy**
A. Lohner, M. Woerner, T. Elsaesser, and W. Kaiser
Ultrafast Phenomena VIII, Springer 1993, p. 416

61. **Capture of hot holes by shallow acceptors in p-type GaAs studied by picosecond infrared spectroscopy**
M. Woerner, A. Lohner, T. Elsaesser, and W. Kaiser
Phys. Rev. B **47**, 12498 (1993)

60. **Coherent optical polarization of bulk GaAs studied by femtosecond photon-echo spectroscopy**
A. Lohner, K. Rick, P. Leisching, A. Leitensdorfer,T. Elsaesser, T. Kuhn, F. Rossi, and W. Stolz
Phys. Rev. Lett. **71**, 77 (1993)

59. **Generation of synchronized femtosecond pulses independently tunable in the mid-infrared**
C. Ludwig, W. Frey, M. Woerner, and T. Elsaesser
Opt. Commun. **102**, 447 (1993)

58. **Femtosecond proton transfer in the electronic ground state of vibrationally hot molecules**
W. Frey, and T. Elsaesser
Chem. Phys. Lett. **189**, 565 (1992)

57. **Relaxation processes of hot holes in p-type germanium studied by picosecond infrared spectroscopy**
M. Woerner, T. Elsaesser, and W. Kaiser
Phys. Rev. B **45**, 8378 (1992)

56. **Electron transfer in porphyrin-quinone cyclophanes studied on the pico- and femtosecond time scale**
W. Frey, R. Klann, F. Laermer, T. Elsaesser, E. Baumann, M. Futscher, and H.A. Staab,
Chem. Phys. Lett. **190**, 567 (1992)

55. **Infrared dye lasers for the wavelength range from 1 to 2 μm**
T. Elsaesser, and W. Kaiser
in : Dye Lasers: 25 Years, Ed. M. Stuke, Topics in Applied Physics Vol. 70, Springer, Berlin 1992, p. 95

54. **Ultrafast internal thermalization of photoexcited carriers in polar semiconductors**
L. Rota, P. Lugli, T. Elsaesser, and J. Shah
SPIE Proc. Vol. 1677 (1992) (invited paper)

53. **Picosecond infrared studies of hot holes in p-type Ge**
M. Woerner, R. Schuster, T. Elsaesser, and W. Kaiser
Semicond. Sci. Technol. **7**, B638 (1992)

52. **Femtosecond luminescence spectroscopy of carrier thermalization in GaAs and InP**
T. Elsaesser, J. Shah, L. Rota, and P. Lugli
Semicond. Sci. Technol. **7**, B144 (1992)

51. **Picosecond capture of photoexcited holes by shallow acceptors in p-type GaAs**
A. Lohner, M. Woerner, T. Elsaesser, and W. Kaiser
Phys. Rev. Lett. **68**, 3920 (1992)

50. **Infrared absorption spectra of photoexcited holes in undoped GaAs**
E.J. Mayer, A. Lohner, M. Woerner, and T. Elsaesser
Phys. Rev. B **46**, 1878 (1992)

49. **Relaxation processes of hot holes in germanium and GaAs studied by picosecond infrared spectroscopy**
T. Elsaesser, A. Lohner, and M. Woerner
Festkörperprobleme/Adv. Solid State Phys. **32**, 131 (1992)

48. **Tunable femtosecond pulses in the ultraviolet by up-conversion of a traveling-wave dye laser**
M.T. Portella, W. Frey, and T. Elsaesser
J. Opt. Soc. Am. **B 9**, 2028 (1992)

47. **Picosecond recombination processes in lead selenide**
R. Klann, T. Höfer, R. Buhleier, T. Elsaesser, and A. Lambrecht,
Appl. Phys. Lett. **61**, 2866 (1992)

46. **Femtosecond studies of excited state proton and deuterium transfer in benzothiazole compounds**
W. Frey, F. Laermer, and T. Elsaesser
J. Phys. Chem. **95**, 10391 (1991)

45. **Femtosecond pulses in the mid-infrared generated by down-conversion of a traveling wave dye laser**
T. Elsaesser, and M.C. Nuss
Opt. Lett. **16**, 411 (1991)

44. **Vibrational and vibronic relaxation of large polyatomic molecules in liquids**
T. Elsaesser, and W. Kaiser
Annual Review of Physical Chemistry **42**, 83 (1991)

43. **Initial thermalization of photoexcited carriers in GaAs studied by femtosecond luminescence spectroscopy**
T. Elsaesser, J. Shah, L. Rota, and P. Lugli
Phys. Rev. Lett. **66**, 1757 (1991)

42. **Picosecond optical nonlinearities in lead chalcogenide semiconductors**
R. Klann, R. Buhleier, T. Elsaesser, and A. Lambrecht
Appl. Phys. Lett. **59**, 885 (1991)

41. **Time-resolved spectroscopy on proton transfer of 2-(2'-hydroxy-5'-methylphenyl)-benzotriazole in liquid and polymer environment**
M. Wiechmann, H. Port, W. Frey, F. Laermer, and T. Elsaesser
J. Phys. Chem. **95**, 1918 (1991)

40. **Picosecond optical gain in the mid-infrared by nonequilibrium split-off holes in p-type germanium**
M. Woerner, T. Elsaesser, and W. Kaiser
Appl. Phys. Lett. **59**, 2004 (1991)

39. **Radiationless processes in antiaromatic molecules : The photophysics of s-indacene studied by ultrashort light pulses**
R. Klann, R.J. Bäuerle, F. Laermer, T. Elsaesser, M. Niemeyer, and W. Lüttke
Chem. Phys. Lett. **169**, 172 (1990)

38. **Inter-valence band scattering and cooling of hot holes in p-type germanium studied by picosecond infrared pulses**
M. Woerner, T. Elsaesser, and W. Kaiser
Phys. Rev. B **41**, 5463 (1990) (Rapid Commun.)

37. **Excited state proton transfer in a benzotriazole photostabilizer investigated by femtosecond spectroscopy**
M. Wiechmann, H. Port, F. Laermer, W. Frey, and T. Elsaesser
Chem. Phys. Lett. **165**, 28 (1990)

36. **Hot electrons in InAs studied by picosecond infrared pulses**
R.J. Bäuerle, T. Elsaesser, and W. Kaiser
Semicond. Sci. and Techn. **5**, 176 (1990)

35. **Femtosecond spectroscopy of stimulated emission from highly excited dye molecules**
F. Laermer, W. Israel, and T. Elsaesser
J. Opt. Soc. Am. B **7**, 1604 (1990)

34. **Picosecond energy transfer of vibrationally hot molecules in solution : Experimental studies and theoretical analysis**
U. Sukowski, A. Seilmeier, T. Elsaesser, and S.F. Fischer
J. Chem. Phys. **93**, 4094 (1990)

33. **Femtosecond proton transfer reactions in electronically excited aromatic molecules**
T. Elsaesser, F. Laermer, W. Frey, W. Kaiser, M. Wiechmann, and H. Port
Ultrafast Phenomena VII, Eds. C.B. Harris, E.P. Ippen, G.A. Mourou, A.H. Zewail, Springer, Berlin 1990, p. 402

32. **Hot phonon spectra of polar semiconductors studied via picosecond free carrier absorption between 5 and 10 μm**
T. Elsaesser, R.J. Bäuerle, R. Klann, and W. Kaiser
Ultrafast Phenomena VII, Springer Berlin 1990, p. 328

31. **Femtosecond pulses in the medium infrared by down-conversion of a traveling-wave dye laser**
T. Elsaesser, and M.C. Nuss
Ultrafast Phenomena VII, Springer Berlin 1990, p. 84

30. **Laserspektroskopie ultraschneller Prozesse in Molekülen und Halbleitern**
T. Elsässer
Habilitationsschrift Technische Universität München, 1990

29. **Transient absorption spectra of a modulation-doped GaInAs/ AlInAs multiple-quantum-well structure measured by picosecond infrared pulses**
T. Elsaesser, R.J. Bäuerle, W. Kaiser, H. Lobentanzer, W. Stolz, and K. Ploog
Appl. Phys. Lett. **54**, 256 (1989)

28. **Picosecond infrared spectroscopy of molecules and semiconductors**
T. Elsaesser, R.J. Bäuerle, and W. Kaiser
Infrared Physics **29**, 503 (1989)

27. **Hot phonons in InAs observed via picosecond free carrier absorption**
T. Elsaesser, R.J. Bäuerle, and W. Kaiser
Phys. Rev. B **40**, 2976 (1989)

26. **Ultrashort vibronic and thermal relaxation of dye molecules after femtosecond ultraviolet excitation**
F. Laermer, T. Elsaesser, and W. Kaiser
Chem. Phys. Lett. **156**, 381 (1989)

25. **Transient reshaping of intersubband absorption spectra due to hot electrons in a modulation-doped multiple-quantum-well structure**
R.J. Bäuerle, T. Elsaesser, H. Lobentanzer, W. Stolz, and K. Ploog
Phys. Rev. B **40**, 10002 (1989) (Rapid Commun.)

24. **Screening of the n=2 excitonic resonance by hot carriers in an undoped GaInAs/AlInAs multiple-quantum-well structure**
H. Lobentanzer, W. Stolz, K. Ploog, R.J. Bäuerle, and T. Elsaesser
Solid State Electron. **32**, 1875 (1989)

23. **Transient intersubband absorption spectra of hot electrons in a modulation-doped multiple-quantum-well structure**
T. Elsaesser, R.J. Bäuerle, W. Kaiser, H. Lobentanzer, W. Stolz, and K. Ploog
Solid State Electron. **32**, 1707 (1989)

22. **Intraband transitions of hot electrons studied by picosecond infrared pulses - a novel probe of hot phonons in polar semiconductors**
T. Elsaesser, R.J. Bäuerle, and W. Kaiser
Solid State Electron. **32**, 1701 (1989)

21. **Spectroscopy of electronically excited singlet states in biphenylene**
T. Elsaesser, F. Laermer, W. Kaiser, B. Dick, M. Niemeyer, and W. Lüttke
Chem. Phys. **126**, 405 (1988)

20. **Generation of femtosecond ultraviolet pulses by intracavity frequency doubling in a mode-locked dye laser**
F. Laermer, J. Dobler, and T. Elsaesser
Opt. Commun. **67**, 58 (1988)

19. **Picosecond infrared spectroscopy of semiconductors and molecules**
W. Kaiser, R.J. Bäuerle, T. Elsaesser, H.J. Hübner, and A. Seilmeier
in : Ultrafast Phenomena VI, Eds. T. Yajima et al., Springer Berlin 1988, p. 452

18. **Intersubband absorption in a modulation-doped $Ga_{0.47}In_{0.53}As$/ $Al_{0.48}In_{0.52}As$ multiple-quantum-well structure**
H. Lobentanzer, W. König, W. Stolz, K. Ploog, T. Elsaesser, and R.J. Bäuerle
Appl. Phys. Lett. **53**, 571 (1988)

17. **Femtosecond spectroscopy of excited state proton transfer in 2-(2'-hydroxyphenyl)-benzothiazole**
F. Laermer, T. Elsaesser, and W. Kaiser
Chem. Phys. Lett. **148**, 119 (1988)

16. **Picosecond infrared spectroscopy of hot carriers in a modulation- doped GaInAs/AlInAs multiple-quantum-well structure**
R.J. Bäuerle, T. Elsaesser, W. Kaiser, H. Lobentanzer, W. Stolz, and K. Ploog
Phys. Rev. B **38**, 4307 (1988) (Rapid Commun.)

15. **Excited state proton transfer in 2-(2'-hydroxyphenyl)-benzothiazole : Transient electronic absorption measured on the picosecond time scale**
T. Elsaesser, B. Schmetzer, M. Lipp, and R.J. Bäuerle
Chem. Phys. Lett. **148**, 112 (1988)

14. **Picosecond spectroscopy of intramolecular proton transfer in aromatic molecules**
T. Elsaesser, and W. Kaiser
Sov. J. Quant. Electron. **15**, 1168 (1988)

13. **Excited state proton transfer in 2-(2'-hydroxyphenyl)-benzothiazole : Formation of the anion in polar solvents**
T. Elsaesser, and B. Schmetzer
Chem. Phys. Lett. **140**, 293 (1987)

12. **Theoretical and experimental analysis of infrared dye laser action in a traveling wave pumping geometry**
H. Lobentanzer, and T. Elsaesser
Appl. Phys. **B 41**, 139 (1986)

11. **Visible and infrared spectroscopy of intramolecular proton transfer using picosecond laser pulses**
T. Elsaesser, and W. Kaiser
Chem. Phys. Lett. **128**, 231 (1986)

10. **Picosecond spectroscopy of intramolecular hydrogen bonds in 4,4',7,7'-tetramethylindigo**
T. Elsaesser, W. Kaiser, and W. Lüttke
J. Phys. Chem. **90**, 2901 (1986)

9. **Infrarotspektroskopie mit Picosekunden-Laserimpulsen**
T. Elsaesser
Dissertation Technische Universität München, Mai 1986

8. **Self-defocusing and self-phase-modulation in InSb measured with picosecond infrared pulses**
T. Elsaesser, H. Lobentanzer, and W. Kaiser
Appl. Phys. Lett. **47**, 1190 (1985)

7. **Generation of tunable picosecond pulses in the medium infrared by down-conversion in $AgGaS_2$**
T. Elsaesser, H. Lobentanzer, and A. Seilmeier
Opt. Commun. **53**, 355 (1985)

6. **Generation of infrared picosecond pulses between 1.2 and 1.8 μm using a traveling wave dye laser**
H.J. Polland, T. Elsaesser, A. Seilmeier, and W. Kaiser
in : Ultrafast Phenomena IV, Eds. D.H. Auston, K.B. Eisenthal, Springer Berlin 1984, p. 49

5. **CW synchronously pumped infrared dye lasers. New dyes for laser action up to 1.8 μm**
A. Seilmeier, H.J. Polland, T. Elsaesser, W. Kaiser, M. Kussler, N.J. Marx, B. Sens, and K.H. Drexhage
in: Laser Spectroscopy VI, Ed. W. Lüthy, Springer Berlin 1984, p. 424

4. **Narrow band infrared picosecond pulses tunable between 1.2 and 1.4 μm generated by a traveling wave dye laser**
T. Elsaesser, H.J. Polland, A. Seilmeier, and W. Kaiser
IEEE J. Quant. Electron. **QE-20**, 191 (1984)

3. **Parametric generation of tunable picosecond pulses in the medium infrared using $AgGaS_2$ crystals**
T. Elsaesser, A. Seilmeier, W. Kaiser, P. Koidl, and G. Brandt
Appl. Phys. Lett. **44**, 383 (1984)

2. **Picosecond dye laser emission in the infrared between 1.4 and 1.8 μm**
H.J. Polland, T. Elsaesser, A. Seilmeier, W. Kaiser, M. Kussler, N.J. Marx, B. Sens, and K.H. Drexhage
Appl. Phys. **B 32**, 53 (1983)

1. **Parametric generation of tunable picosecond pulses in proustite between 1.2 and 8 μm**
T. Elsaesser, A. Seilmeier, and W. Kaiser
Opt. Commun. **44**, 293 (1983)