

Publications

Published and accepted publications:

1. M. Plewicki, F. Weise, S. M. Weber, and A. Lindinger.
Phase, amplitude, and polarization shaping with a pulse shaper in a Mach-Zehnder interferometer, *Appl. Opt.* **45**, 8354-8359 (2006)
2. M. Plewicki, S. M. Weber, F. Weise, and A. Lindinger.
Independent control over the amplitude, phase, and polarization of femtosecond pulses *Accepted to Applied Physics B*. DOI: 10.1007/s00340-006-2464-y
3. F. Weise, S. M. Weber, M. Plewicki, and A. Lindinger.
Application of phase, amplitude, and polarization shaped pulses for optimal control on molecules. *Chem. Phys.* (2006) accepted.
4. A. Lindinger, S. M. Weber, A. Merli, F. Sauer, M. Plewicki, and L. Wöste.
Optimal control methods applied on the ionization processes of alkali dimers *Journal of Photochemistry and Photobiology A: Chemistry*, **180**, 256-261 (2006)
5. W. Salzmann, U. Poschinger, R. Wester, M. Weidemueller, A. Merli, S. M. Weber, F. Sauer, M. Plewicki, F. Weise, A. M. Esparza, L. Wöste, and A. Lindinger.
Coherent control with shaped femtosecond laser pulses applied to ultracold molecules *Phys. Rev. A* **73**, 023414 (2006)
6. F. Sauer, A. Merli, M. Plewicki, S. M. Weber, L. Wöste, and A. Lindinger.

- Coherent control of isotope selective ionization and fragmentation of potassium dimers. *Proceeding of the 7th Int. Conf. on Femtochemistry, Washington, USA, 17-22 July, Femtochemistry VII: Fundamental Ultrafast Processes in Chemistry, Physics, and Biology*; Eds: A. W. Castleman, M. L. Jr. Kimble Elsevier: Amsterdam, 490 (2006)
7. A. Lindinger, S. M. Weber, C. Lupulescu, F. Vetter, M. Plewicki, A. Merli, L. Wöste, A. F. Bartelt, and H. Rabitz.
Revealing spectral field features and mechanistic insights by control pulse cleaning *Phys. Rev. A* **71**, 013419 (2005)
 8. A. Lindinger, C. Lupulescu, F. Vetter, M. Plewicki, S.M. Weber, A. Merli, and L. Wöste.
Learning from the acquired optimized pulse shapes about the isotope selective ionization of potassium dimers *J. Chem. Phys.* **122**, 024312 (2005)
 9. S. M. Weber, A. Lindinger, F. Vetter, M. Plewicki, A. Merli and L. Wöste.
Application of parametric time and frequency domain shaping *Eur. Phys. J. D* **33**, 39-42 (2005)
 10. A. Lindinger, A. Merli M. Plewicki, F. Vetter, S. M. Weber, L. Wöste.
Optimal control of isotope selective fragmentation *Chem. Phys. Lett.* **413**, 315-320 (2005)
 11. F. Vetter, M. Plewicki, A. Lindinger, A. Merli, S. M. Weber, and L. Wöste.
Optimized isotope-selective ionization of $^{23}\text{Na}^{39}\text{K}$ and $^{23}\text{Na}^{41}\text{K}$ by applying evolutionary strategies *Phys. Chem. Chem. Phys.* **7**, 1151-1156 (2005)
 12. C. Lupulescu, A. Lindinger, M. Plewicki, A. Merli, S. M. Weber, and L. Wöste.
Frequency dependent optimization of the ionization process in NaK by means of fs-pulses *Chemical Physics*, **296**, 63-69 (2004)

13. A. Lindinger, C. Lupulescu, M. Plewicki, F. Vetter, A. Merli, S. M. Weber, and L. Wöste.
Isotope Selective Ionization by Optimal Control Using Shaped Femtosecond Laser Pulses *Phys. Rev. Lett.* **93**, 033001 (2004)
14. S. M. Weber, A. Lindinger, M. Plewicki, C. Lupulescu, F. Vetter, and L. Wöste.
Temporal and Spectral Optimization Course Analysis of Coherent Control Experiments *Chem. Phys.* **306**, 287-293 (2004)
15. A. Lindinger, F. Vetter, C. Lupulescu, M. Plewicki, S. M. Weber, A. Merli, L. and Wöste.
Selective ionization via different electronic pathways by optimal control demonstrated for $^{23}\text{Na}^{39}\text{K}/^{23}\text{Na}^{41}\text{K}$ *Chem. Phys. Lett.* **397**, 123-127 (2004)
16. A. Lindinger, M. Plewicki, S. M. Weber, C. Lupulescu and L. Wöste.
Spectral modification of supercontinuum light by means of fs-light pulses optimized in a closed learning loop *Optica Applicata*, XXXIV, No. 3, (2004)
17. A. Lindinger, C. Lupulescu, M. Plewicki, S. M. Weber, A. Merli, F. Vetter, and L. Wöste.
Closed loop optimization of the ionization Process in NaK. Learning from the optimal pulse shape. *Martin, Minique M.; Hynes, James T. (Ed.): Femtochemistry and Femtobiology Amsterdam u. a.* (Elsevier) (2004), 111-122, ISBN: 0444516565
18. C. Lupulescu, A. Lindinger, A. Merli, M. Plewicki, and L. Wöste.
Free phase optimization of $\text{CpMn}(\text{CO})_2^+$ as a fragment of $\text{CpMn}(\text{CO})_3$ by means of femtosecond laser pulses *Martin, Minique M.; Hynes, James T. (Hrg.): Femtochemistry and Femtobiology Amsterdam u. a.* (Elsevier) (2004), 123-126, ISBN: 0444516565
19. A. Lindinger, A. Bartelt, C. Lupulescu, M. Plewicki, and L. Wöste;
Learning about clusters by teaching lasers to control them. *Latest Advances in Atomic Cluster Collisions: Fission, Fusion, Electron, Ion*

*and Photon Impact” (edited by J.-P. Connerade and A.V. Solov’gov),
Imperial College Press, London, p. 279-290 (2004) ISBN 1-86094-495-7.*

Publications submitted or in preparation:

1. S. M. Weber, M. Plewicky, F. Weise, and A. Lindinger.
Parametric phase, amplitude, and polarization shaping on molecules.
Phys. Rev. A (2007) submitted.
2. W. Salzmann, J. Eng, T. Mullins, M. Albert, R. Wester, M. Weidemller,
A. Merli, F. Sauer, M. Plewicky, F. Weise, L. Wöste, A. Lindinger.
Photoassociation of ultracold molecules with shaped femtosecond laser
pulses. *to be submitted*.

Patentanmeldung:

Vorrichtung und Verfahren zur Herstellung und Detektion in Amplitude,
Phase und Polarisation geformter Laserpulse

A. Lindinger, M. Plewicky, S. M. Weber and F. Weise.

Patentanmeldung beim deutschen Patent- und Markenamt.