



## **Program**

**Organizers:** Alexander Apolonskiy  
Ferenc Krausz

**Annual Meeting**  
**MPQ-LMU Laboratory for Attosecond Physics (LAP)**  
Frauenchiemsee, 6-10 October 2008

<b>MONDAY 6<sup>th</sup> October 2008</b>		
<b>Arrival-Coffee break-Welcome</b>		<b>10:00-11:00</b>
<b>Morning session on: Multilayer optics</b>		Chairman: <b>A. Apolonskiy</b>
<b>APOLONSKIY Alexander</b> LMU <b>FRAU SCHOLASTICA</b> Frauenwoerth Abbey	<i>Introduction</i>	<b>11:00 – 11:10</b>
<b>PERVAK Volodymyr</b> LMU	<i>Progress in UV-VIS-IR multilayer dispersive optics</i>	<b>11:10 – 11:30</b>
<b>KLEINEBERG Ulf</b> LMU	<i>Development of attosecond multilayer optics for the 100-190eV photon energy range</i>	<b>11:30 – 11:50</b>
<b>Lunch</b>		<b>12:00 – 13:30</b>
<b>First afternoon session on: Brilliant X-rays and particle sources based on thin diamond foils</b>		Chairman: <b>L.Veisz</b>
<b>MEYER-TER-VEHN Jürgen</b> <b>WU Hui-Chun</b>  MPQ	<i>1. Coherent Thomson back-scattering from laser-accelerated ultrathin electron layers 2. Reflectivity of ultra-thin relativistic mirrors. Analytic theory compared to 1D-PIC simulation</i>	<b>13:30 - 14:15</b>
<b>KIEFER Daniel</b> MPQ	<i>Electron acceleration from nm-scale DLC foils</i>	<b>14:15 - 14:30</b>
<b>JUNG Daniel</b> MPQ	<i>Fabrication and characterization of nm-scale DLC foils</i>	<b>14:30 - 14:45</b>
<b>HENIG Andreas</b> LMU	<i>Ion acceleration from nm-scale DLC foils</i>	<b>14:45 - 15:00</b>
<b>Coffee Break</b>		<b>15:00 – 15:30</b>
<b>Second afternoon session on: HFI activities and laser development. Part 1</b>		Chairman: <b>G. Tsakiris</b>
<b>TSAKIRIS George</b> MPQ	<i>Introductory words</i>	<b>15:30 – 15:40</b>
<b>HÖRLEIN Rainer</b> LMU	<i>Harmonic generation from solid surfaces: Recent results</i>	<b>15:40 – 16:00</b>
<b>HEISSLER Patrick</b> MPQ	<i>Future experiments on harmonic generation from solid surfaces using the LWS-20 laser system</i>	<b>16:00 – 16:20</b>
<b>RYKOVANOV Sergey</b> MPQ	<i>Influence of surface modulations on high-order harmonic generation</i>	<b>16:20 – 16:40</b>
<b>MIKHAILOVA Julia</b> MPQ	<i>Attosecond relativistic optics with high-contrast LWS-20 pulses</i>	<b>16:40 – 17:00</b>
<b>Dinner</b>		<b>18:00 - 19:00</b>
<b>Evening session on: HFI activities and laser development. Part 2</b>		Chairman: <b>G. Tsakiris</b>
<b>HERRMANN Daniel</b> MPQ	<i>Light Wave Synthesizer 20:8-fs, 20TW optical parametric chirped pulse amplifier</i>	<b>19:00 – 19:20</b>
<b>BUCK Alexander</b> MPQ	<i>Contrast improvement of LWS20</i>	<b>19:20 – 19:35</b>
<b>TAUTZ Raphael</b> MPQ	<i>Temporal characterization of LWS20</i>	<b>19:35 - 19:50</b>
<b>SEARS Chris</b> MPQ	<i>Attosecond electron bunch slicing</i>	<b>19:50 - 20:10</b>

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<b>TUESDAY 7<sup>th</sup> October 2008</b>		
<b>Breakfast</b>		<b>8:00 – 8:30</b>
<b>Session on: Towards a laser-based free-electron laser</b>		<b>Chairman: F. Grüner</b>
<b>GRÜNER Florian</b> LMU	<i>Introductory words</i>	<b>8:40 – 8:50</b>
<b>GRÜNER Florian</b> LMU	<i>Space-charge effects of laser-accelerated electron bunches</i>	<b>8:50 - 9:05</b>
<b>FUCHS Matthias</b> LMU	<i>First observation of soft x-ray undulator radiation from laser-accelerated electrons</i>	<b>9:05 – 9:25</b>
<b>WEINGARTNER Raphael</b> LMU	<i>Development of a diagnostic undulator</i>	<b>9:25 - 9:40</b>
<b>Coffee break</b>		<b>9:40 - 10:00</b>
<b>Session on: HFI activities and laser development. Part 3</b>		<b>Chairman: S. Karsch</b>
<b>KARSCH Stefan</b> MPQ	<i>Introductory words</i>	<b>10:00 - 10:10</b>
<b>POPP Antonia</b> MPQ	<i>Steering of stable electron beams</i>	<b>10:10 – 10:30</b>
<b>SCHMID Karl</b> MPQ	<i>Gas targets for laser-plasma experiments and more</i>	<b>10:30 – 10:45</b>
<b>KLINGEBIEL Sandro</b> MPQ <b>WANDT Christoph</b> MPQ	<i>Status of PFS pump laser</i>	<b>10:45 – 11:05</b>
<b>AHMAD Izhar</b> MPQ	<i>Status of PFS frontend</i>	<b>11:05 – 11:25</b>
<b>MAJOR Zsuzsanna</b> MPQ	<i>IR idler generation and angle compensation</i>	<b>11:25 – 11:45</b>
<b>KARSCH Stefan</b> MPQ	<i>Status of ATLAS upgrade</i>	<b>11:45 - 11:55</b>
<b>Lunch</b>		<b>12:00 – 13:30</b>
<b>Session on: Ultrafast oscillators and applications</b>		<b>Chairman: A. Apolonskiy</b>
<b>APOLONSKIY Alexander</b> LMU	<i>Introductory words</i>	<b>13:30 – 13:40</b>
<b>RAUSCHENBERGER Jens</b> LMU	<i>Survey of project activities: XUV pulses at MHz repetition rate</i>	<b>13:40 – 14:00</b>
<b>TEISSET Catherine</b> LMU <b>GRAF Roswitha</b> MPQ	<i>Progress with high-energy Yb:YAG oscillators</i>	<b>14:00 – 14:20</b>
<b>PUPEZA Ioachim</b> LMU	<i>Progress in XUV generation based on enhancement cavity and 1.04 <math>\mu\text{m}</math> pump</i>	<b>14:20 – 14:40</b>
<b>GANZ Thomas</b> MPQ	<i>Broadband IR SNOM</i>	<b>14:40 – 15:00</b>
<b>KEILMANN Fritz</b> MPQ	<i>Conduction dynamics by SNOM?</i>	<b>15:00 – 15:20</b>
<b>Coffee break</b>		<b>15:20–15:50</b>
<b>Session on: short electron pulses and laser development</b>		<b>Chairman: E. Fill</b>
<b>FILL Ernst</b> LMU	<i>Survey of project activities: ultrashort electron pulses - generation, measurement and application.</i>	<b>15:50 - 16:00</b>
<b>RECKENTHÄLER Peter</b> LMU	<i>Electron diffraction from photo-selectively aligned molecules</i>	<b>16:00 - 16:20</b>
<b>CENTURION Martin</b> LMU	<i>Electron pulse duration measurement - theory and first experimental steps</i>	<b>16:20 - 16:40</b>

<b>BAUM Peter</b> LMU	<i>Visualization of nuclear and electron motion by ultrafast electron diffraction</i>	<b>16:40 - 17:00</b>
<b>SCHWEINBERGER Wolfgang</b> MPQ	<i>Status FemtoPower 3</i>	<b>17:00 - 17:10</b>
<b>DENG Yunpei</b> MPQ	<i>Latest development in LWS-1: 15-fs 700-<math>\mu</math>J 2-<math>\mu</math>m pulses</i>	<b>17:10 - 17:30</b>
<b>SCHWARZ Alexander</b> MPQ	<i>Thin disk regenerative amplifier for pumping OPCPA at kHz repetition rates</i>	<b>17:30 - 17:40</b>
<b>HABS Dieter</b> LMU	<i>Laser production of exotic particles</i>	<b>17:40 - 18:10</b>
<b>Bavarian Evening</b>		<b>18:30 - open end</b>

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<b>WEDNESDAY 8<sup>th</sup> October 2008</b>	
<b>Breakfast</b>	<b>8:00 – 8:30</b>
Outing / Ausflug s. separate program	
Departure for Kampenwand - boat for Gstad	9:30
Departure for Herrenchiemsee - boat	10:00
Return depending on weather and tour	
<b>Dinner</b>	<b>18:00 – 19:00</b>

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<b>THURSDAY 9<sup>th</sup> October 2008</b>		
<b>Breakfast</b>		<b>8:00 – 8:30</b>
<b>First morning session on: Attosecond pulse generation and spectroscopy. Part 1</b>		<b>Chairman: E. Goulielmakis</b>
<b>GOULIELMAKIS Eleftherios</b> MPQ	<i>Overview UV+ waveform generation, transient absorption</i>	<b>8:40 – 9:10</b>
<b>GRAF Ulrich</b> MPQ	<i>Intense few-cycle light pulses in the deep ultraviolet</i>	<b>9:10 – 9:30</b>
<b>GRGURAS Ivanka</b> MPQ	<i>Light waveform synthesis and FROG metrology of ultra broad waveforms</i>	<b>9:30 - 9:45</b>
<b>SCHULTZE Martin</b> MPQ	<i>Shake up in Helium</i>	<b>9:45 - 9:55</b>
<b>Coffee break</b>		<b>9:55 - 10:30</b>
<b>Second morning session on: Attosecond pulse generation and spectroscopy. Part 2</b>		<b>Chairman: M. Kling</b>
<b>KLING Matthias</b> MPQ	<i>Attosecond imaging activities</i>	<b>10:30 - 10:40</b>
<b>WIRTH Adrian</b> MPQ	<i>Transient absorption</i>	<b>10:40 – 11:00</b>
<b>ZNAKOVSKAYA Irina</b> MPQ	<i>Localization of electrons during molecular dissociation</i>	<b>11:00 – 11:15</b>
<b>HERRWERTH Oliver</b> MPQ	<i>COLTRIMS experiments at the AS-1 and FLASH</i>	<b>11:15 – 11:30</b>
<b>WITTMANN Tibor</b> MPQ	<i>Single-shot Serreo ATI measurements</i>	<b>11:30 – 11:45</b>
<b>Lunch</b>		<b>12:00 – 15:15</b>
<b>First afternoon session on: Attosecond pulse generation and spectroscopy. Part 3</b>		<b>Chairman: R. Kienberger</b>
<b>Coffee break</b>		<b>15:15 – 15:45</b>
<b>SCHULTZE Martin</b> MPQ	<i>AS2 overview</i>	<b>15:45 – 15:55</b>
<b>FIEß Markus</b> MPQ	<i>Status of the AS2-beamline</i>	<b>15:55 – 16:05</b>
<b>HORVATH Balint</b>	<i>Status of the Omega/2*Omega experiment</i>	<b>16:05 – 16:20</b>
<b>BOTHSCHAFTER Elisabeth</b> MPQ	<i>Planned Light Sources for AS4b</i>	<b>16:20 – 16:30</b>
<b>ERNSTORFER Ralph</b> MPQ	<i>Plans for AS4b</i>	<b>16:30 – 16:45</b>
<b>ERNSTORFER Ralph</b> MPQ	<i>Overview on solid state experiments</i>	<b>16:45 – 17:00</b>
<b>MAGERL Elisabeth</b> MPQ	<i>News at AS3</i>	<b>17:00– 17:15</b>
<b>MARCUS Gilad</b> MPQ	<i>Overview QPM</i>	<b>17:15 - 17:30</b>
<b>HELML Wolfram</b> MPQ	<i>Status AS4</i>	<b>17:30 - 17:45</b>
<b>Dinner</b>		<b>18:00 – 19:00</b>
<b>Evening session</b>		<b>Chairman: V. Yakovlev</b>
<b>Attosecond pulse generation and spectroscopy. Part 4</b>		
<b>YAKOVLEV Vladislav</b> LMU	<i>The theoretical aspects of attosecond measurements</i>	<b>19:00 - 19:30</b>
<b>KLEINEBERG Ulf</b> LMU	<i>Laser photoemission electron microscopy: perspectives for time-resolved surface plasmon dynamics, magnetization dynamics and electron momentum imaging</i>	<b>19:30 - 20:00</b>

<b>FRIDAY 10<sup>th</sup> October 2007</b>	
<b>Breakfast</b>	<b>8:00 – 8:30</b>
Overview UFO plans - Chairman: <b>A. Apolonskiy</b>	
Discussion (A. Apolonskiy, V. Pervak, J. Rauschenberger, E. Fill)	<b>8:40 – 10:10</b>
<b>Coffee</b>	<b>10:10–10:30</b>
Overview AS plans - Chairman: <b>M. Kling</b>	
Discussion (M. Kling, U. Kleineberg, V.Yakovlev)	<b>10:30 - 11:50</b>
<b>Lunch</b>	<b>12:00 – 13:30</b>
Overview AS plans - Chairman: <b>R. Kienberger</b>	
Discussion (E. Goulielmakis, M. Schultze, G. Marcus, X. Gu)	<b>13:30 – 14:40</b>
Overview PFS plans- Chairman: <b>S. Karsch</b>	
Discussion	<b>14:40 – 15:00</b>
<b>Coffee Break</b>	<b>15:00 – 15:30</b>
Overview HF plans - Chairman: <b>G. Tsakiris</b>	
Discussion (G.Tsakiris, F. Grüner, S. Karsch, L. Veisz)	<b>15:30 – 17:30</b>
<b>Dinner</b>	<b>18:00</b>
<b>Departure by boat from the other end of the island - Nordsteg</b>	<b>19:00</b>