

Deutsche Physikalische Gesellschaft



DPG-Frühjahrstagung 2016

(Spring Meeting)

of the
**Atomic, Molecular, Plasma Physics
and Quantum Optics Section
(SAMOP)**

together with the Division
Physics Education

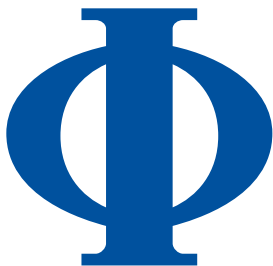
and the Working Group
Young DPG

Short Programme

Leibniz Universität

Hannover

February 29 – March 4, 2016



Impressum:

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Gerichtsstand: Königswinter

Eingetragen in das Vereinsregister (VR 90474) des Amtsgerichtes Siegburg. Die DPG fördert wissenschaftliche Zwecke. Sie ist nach § 5 Abs. 1 Nr. 9 KStG von der Körperschaftsteuer befreit, weil sie ausschließlich und unmittelbar steuerbegünstigten gemeinnützigen Zwecken i. S. der §§ 51 ff. AO dient.

Verantwortlich für den Inhalt:
Dr. Bernhard Nunner (Hauptgeschäftsführer)
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PODIUMSDISKUSSION: PROMOTION HEUTE - WOZU?

- Welche Rolle spielt die Promotion für Forschung, Industrie, Gesellschaft, und Doktoranden?
- Welche Leitmotive einer sinnvollen Promotion ergeben sich daraus?
- Folgt die aktuelle Promotionskultur diesen Motiven?

Mittwoch, 2. März, 11:00 Uhr
Im Rahmen der DPG-Frühjahrstagung in Hannover, Raum F102

PROF. DR. KATHARINA KOHSE-HÖINGHAUS
Mitglied des Wissenschaftsrates, Universität Bielefeld

PROF. DR. KARLHEINZ LANGANKE
Wissenschaftlicher Geschäftsführer, Helmholtzzentrum für Schwerionenforschung, Darmstadt

DR. LUTZ SCHRÖTER
Strategie und Projekte (FCS), Volkswagen AG, Wolfsburg

WALTER HAHN
Doktorandenvertreter an der HGSFP (2014-15), Ruprecht-Karls-Universität Heidelberg

MODERATION: ARMIN HIMMELRATH
Freiberuflicher Journalist

Eine Initiative der jungen DPG



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A Passion for Precision.

LASERS FOR SCIENTIFIC CHALLENGES

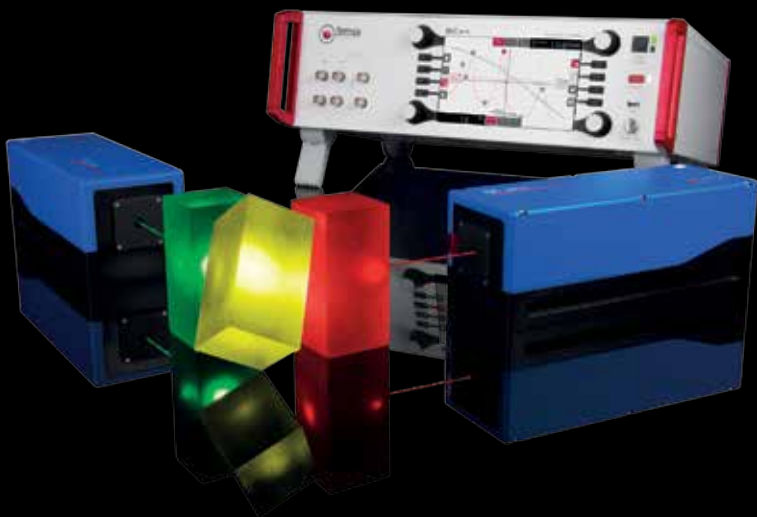
Tunable Diode Lasers

Frequency-Converted Lasers

Ultrafast Fiber Lasers

Frequency Combs

Terahertz Systems



WWW.TOPTICA.COM

Greeting

Dear conference guests,

I cordially welcome you at the Leibniz Universität Hannover to the DPG-Frühjahrstagung (Spring Meeting) of the Atomic, Molecular, Plasma Physics and Quantum Optics Section (SAMOP) together with the Physics Education division and the working group young DPG. The DPG Spring Meetings with an outstanding scientific programme have been very successful for many years and are visited by thousands of physicists – from students to Nobel laureates. In 2015, more than 10,000 people took part in the overall four DPG conferences, and the number of participants continues to grow. In addition, an exhibition of industrial equipment and literature will take place in Hannover with more than 50 national and international exhibitors.

The DPG Spring Meeting in Hannover with almost 2,000 physicists will send a signal from DPG to decision makers in our science institutes, in politics and industry, that science, scientific dialogue combined with knowledge and technology transfer are our way to make a strong contribution to our society. We also want to stress that the fostering of physics at school and of young scientists is of central importance. The future of Germany and Europe depends on high tech talents. This conference makes an important contribution to this point: By far the most scientific contributions are submitted by young researchers who report on results of their doctoral or master's theses. SAMOP also honours young scientists with a prize for the best dissertation.

The promotion of physics and natural sciences is a societal challenge. It is gaining even more importance through the arrival of many young migrants in Germany. As a first step to integration, the DPG has launched in December 2015 a project for refugees "Physics for all" in collaboration with the University of Göttingen and the Federal Ministry of Education and Research (BMBF). With this project, the DPG provides children and young people in 20 refugee facilities (so called

“Landeserstaufnahmeeinrichtungen”) in Germany instructive and exciting entertainment with small physics experiments. In order to perform such experiments there is no need for a special language, religion or a particular place – natural laws are the same all over the world. More than 1,000 volunteers nation-wide already support DPG in this project. The programme will be continued in 2016 in a similar form. We would be pleased if you support the DPG with a donation for “Physics for all”.

Such a conference is only feasible thanks to the great effort of everyone involved. Firstly I would like to thank the Leibniz Universität Hannover for being our hosts and for their assistance as well as the Wilhelm and Else Heraeus Foundation once again for their generous financial support for all DPG Spring Meetings. Many thanks also to the speakers of SAMOP and the divisions and working group involved for their successful work. My very special thanks go to the Local Organiser, Professor Eberhard Tiemann, Institut für Quantenoptik, and his team for organising this conference. Furthermore, I am particularly grateful to the DPG Head Office for the support and assistance it provides for all DPG Spring Meetings.

Prof. Dr. Edward G. Krubasik



President of the
Deutsche Physikalische Gesellschaft

Organisation

Organiser

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Local Organiser

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Institute of Quantum Optics
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Email tiemann@iqo.uni-hannover.de

Scientific Organisation

Chair of the AMOP Section (SAMOP)

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Quantum Optics and Statistics
Institute of Physics, University of Freiburg
Hermann-Herder-Str. 3, 79104 Freiburg
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Fax +49 (0) 0761 203 5967
Email a.buchleitner@physik.uni-freiburg.de

Chairs of the Participating Divisions and Working Group

- (A) Atomic Physics
 - Prof. Dr. Dieter Bauer
(dieter.bauer@uni-rostock.de)
- (DD) Physics Education
 - Prof. Dr. Johannes Grebe-Ellis
(grebe-ellis@uni-wuppertal.de)
- (K) Short Time-scale Physics
 - Dr. Andreas Görtler
(AGoertler@gmx.de)
- (MO) Molecular Physics
 - Prof. Dr. Dr. Gereon Niedner-Schatteburg

(gns@chemie.uni-kl.de)

- (MS) Mass Spectrometry
– Prof. Dr. Robin Golser
(robin.golser@univie.ac.at)
- (P) Plasma Physics
– Dr. Navid Mahdizadeh
(navid.mahdizadeh@ch.abb.com)
- (Q) Quantum Optics and Photonics
– Prof. Dr. Vahid Sandoghdar
(vahid.sandoghdar@mpl.mpg.de)
- (jDPG) Young DPG
– Georg Winner
(winner@jdpg.de)

Symposia

- SYAD – SAMOP Dissertation Prize
SYBO – Biomedical Optics
SYML – From First Molecules to Life
SYPS – PhD Symposium Synthesized
Gauge Fields and Experimental Realizations
SYUL – Advanced Concepts for
High Peak Power Ultrafast Lasers

Organisation of the Exhibition of Scientific Instruments and Literature

DPG-Kongreß-, Ausstellungs- und
Verwaltungsgesellschaft mbH
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Programme

The scientific programme consists
of 1.620 contributions:

10	Plenary talks
6	Group reports
1	Evening talk
832	Talks
2	Prize talks
695	Posters
74	Invited talks

Information for Participants

The conference will be held
February 29 – March 4, 2016.

Conference Information

Conference Venue

Leibniz Universität Hannover
Welfengarten 1
30167 Hannover

Most of the activities will take place in the main building of the university (Welfengarten 1). For a detailed map of the campus and the buildings please see the end of this booklet.

Conference Office – Information Desk

The conference office and the information desk are located in room C 109 on the right side of the “Lichthof” in the Main Building of the Leibniz Universität Hannover. The opening hours are the following:

		Registration	Information Desk
Sunday	Feb. 28	closed	15:30 – 19:00
Monday	Feb. 29	07:30 – 19:00	07:30 – 19:00
Tuesday	March 1	08:00 – 16:00	08:00 – 18:30
Wednesday	March 2	08:00 – 16:00	08:00 – 18:30
Thursday	March 3	08:00 – 16:00	08:00 – 18:30
Friday	March 4	08:00 – 12:00	08:00 – 15:00

Direct Express Check-in at Hannover Central Station

Sunday	Feb. 28	13:30 – 22:00
Monday	Feb. 29	07:30 – 17:00

At the conference office or at the central train station you will receive a receipt for your conference fee, a ticket for public transportation (valid from February 29 to March 4), the login-password for using WiFi, the printed programmes, and your name tag. The name tag must be worn visibly during the entire conference.

The organisers, staff of the conference desk, and the

student assistants will be identifiable by coloured name tags and Φ -T-shirts. Please contact them if you have any questions.

Do not hesitate to inquire about all necessary information concerning the conference, orientation in Hannover, accommodation, restaurants, going out, and cultural events at the information desk. During the conference you can contact the information desk by telephone +49 (0) 511 762-2589 or fax +49 (0) 511 762-2211.

Message Board

All changes of the scientific programme and other important information for participants will be announced on a message board near the conference office / information desk and via the homepage <http://hannover16.dpg-tagungen.de>. Please check regularly.

With the DPG-App through the Spring Meetings!

The updated DPG-App is ready-to-use and contains additional functions/features: In addition to the option of target groups, the Programme Booklets for DPG Conferences (VERHANDLUNGEN) are accessible and it is possible to compile a "favourite list" regarding events one wants to attend. Just download the DPG-App for Android or iOS now and utilise the supplemental offerings. You will find more information under <https://www.dpg-physik.de/service/dpg-app.html>.

Presentation

Scientific presentations will be held either orally or by poster and will be given in English or German. All plenary talks will be given in English.

All lecture halls and seminar rooms are equipped with electronic presentation technique. You can connect your own laptop (please check connection before the start of your session) or you might bring your presentation (pdf or PowerPoint "2007") on an USB memory stick and transfer it to the computer in the lecture hall before the start of the session. In all lecture halls there will be service staff to help you with your presentation.

Speakers are requested to be in the lecture hall at least 25 minutes prior to the start of the session, reporting to the chairperson of the session as well as the technical staff to ensure the laptops handshake with the projectors (“beamers”) and to receive a brief introduction to the equipment in the lecture hall.

If you need other presentation facilities please ask for availability at the information desk as soon as you arrive at the conference or better in advance via telephone +49 (0) 511 762-2589

Usually, presentations will have the following durations. For exact information, please refer to your division.

- Contributed talks are 15 minutes including discussion and speaker change
- (12 min talk + 3 min discussion/speaker change)
- Invited talks are 30 minutes including discussion and speaker change
- (25 min talk + 5 min discussion/speaker change)
- Plenary presentations are 45 minutes without discussion

Poster Presentation

The poster sessions (Monday – Friday) will take place in the Gallery of the Lichthof (main building) from 16:30 to 19:00.

The poster boards will be marked with the number according to the scientific programme. Authors are asked to mount their poster before their session. Each poster should display the number according to the scientific programme. Each poster should be no larger than 90 cm x 120 cm (DIN A0). For the mounting of the poster please use the provided mounting material at the poster frame or contact the student staff available at the poster area. The presenting authors should be at hand for discussion at their poster during at least half of the poster session and should note this time at the poster.

The posters have to be removed after the session. Any posters remaining on poster boards will be removed early in the next morning and disposed without re-

requesting your permission. The conference management accepts no liability for the posters.

Wilhelm and Else Heraeus Communication Programme

Important notes for participants who apply for a grant of the Wilhelm and Else Heraeus Foundation:

At the beginning of the conference you will receive an identification form at the conference office. The participation in the conference must be certified by the conference desk. You have the possibility to leave this certificate with the staff members of the DPG (recommended!) in the conference office or submit it to the DPG Head Office (DPG-Geschäftsstelle, Hauptstr. 5, 53604 Bad Honnef, Germany) by April 1, 2016 at the latest.

For more detailed information refer to <http://hannover16.dpg-tagungen.de>.

The Deutsche Physikalische Gesellschaft thanks the Wilhelm and Else Heraeus Foundation for the generous financial support of young academic talents. We hope that young physicists will continue to seize the offered opportunity for active scientific communication at scientific conferences. A total of about 27,850 young academics were supported by this programme so far.

Communication / Internet Access

WiFi access will be provided at the campus of the Leibniz Universität Hannover. You will get login and password with your registration documents. Additionally, PCs will be available for email and internet applications in the main building of the university, ask at the information desk for locations. There is a printing facility in den DocuLounge (level 0 in the main building). You will get a copycard at the information desk.

Catering

In the "Lichthof" and in the "Foyer Ost/Audimax" coffee and tea will be available all-day free of charge for participants. In addition, coffee will be provided at coffee corners near the lecture halls during breaks. Lunch will be on offer at the Mensa Callinstrasse/Schneider-

berg (11:40 – 14:30, meals from 11:40 - 14:10) as well as in the Contine, Königsworther Str. 1 (08:00 – 18:00, meals from 11:00 – 17:30). Within walking distance (about 10 minutes) to the university there are different opportunities for snack and restaurants (you will receive a list at the information desk).

Annual General Meetings of the DPG Divisions

Division	Date	Time and Allocation
Atomic Physics (A)	Thursday, March 3	13:15 – 14:00, f107
Physics Education (DD)	Tuesday, March 1	17:00 – 19:00, f107
Short Time-scale Physics (K)	Monday, February 29	17:00 – 17:30, f428
Molecular Physics (MO)	Wednesday, March 2	13:00 – 13:30, e415
Mass Spectrometry (MS)	Thursday, March 3	12:45 – 13:15, f128
Plasma Physics (P)	Wednesday, March 2	12:30 – 13:30, b305
Quantum Optics and Photonics (Q)	Wednesday, March 2	13:15 – 14:15, a310

Cloakroom

Participants are asked to look carefully after their wardrobe, valuables, laptops, and other belongings for which the organisers are not liable. You will find a cloakroom in the “Foyer Ost/Audimax” of the Leibniz Universität Hannover.

Labtours

Lab visits of the local institutes are offered, see the announcement at the board close to the conference desk. There will be also a tour to Braunschweig, for visiting labs at the Physikalisch-Technische Bundesanstalt (PTB) on Wednesday afternoon, March 2.

Trip details, no fees:

14:00 departure by bus at the main entrance of the university

15:00 – 18:00 lab tour at PTB

18:10 departure for returning to Hannover,
arrival at the university 19:10

Registration is required at the information desk for all lab tours.

Room of Silence, Meditation and Praying

The room in the lower floor, F031 "Raum der Stille" is open for all people at any time. All religions are welcome and should be respected by entering the room.

Social Events

Welcome Evening

Date: Monday, February 29, 19:30

The Opening by the Lord Mayor of Hannover City, Stefan Schostock, and the President of the Leibniz Universität Hannover, Prof. Volker Epping and the Welcome Evening will be held in the Mensa of the Leibniz Universität Hannover, Callinstr. 23 to which all registered participants are kindly invited. Snacks, beer and soft drinks will be served. You will receive **three vouchers** for drinks at the entrance. Do not miss this opportunity to meet people in an informal atmosphere.

Prize Talks

(All Prize Talks will be held in lecture room E415 Audimax)

Herbert-Walther-Prize 2016

Combined award with the Optical Society of America (OSA) – the prize will be awarded subsequently to the Prize Talk

Monday, February 29, 11:00 – 11:45

(including Award Ceremony)

Prof. Dr. Peter Zoller, Institute for Theoretical Physics, University of Innsbruck, and Institute for Quantum Optics and Quantum Information of the Austrian Academy of Sciences, will speak about:

"Chiral Quantum Networks with Photons and Atoms"

Georg-Kerschensteiner-Prize 2016

Monday, February 29, 11:45 – 12:15

Nina und Ingo Wentz, Gesamtschule Hennef-Meiersheide, will speak about:

„Gedankliche Lawinen“

SAMOP Dissertation Prize 2016

Tuesday, March 1, 11:00 – 13:00

Talks by the four finalists will be given at this symposium. The laureate will be chosen after the SAMOP Dissertation Prize Symposium and the award will be presented during the plenary session Wednesday morning, March 2, 2016.

Public Evening Talk

Wednesday, March 2, 19:30 – 21:00

Prof. Dr. Karsten Danzmann, Universität Hannover, will speak about

„Gravitationswellenastronomie: Neues von der dunklen Seite des Universums!“

The Public Evening Talk is open for the interested public and all conference participants. The entrance is free.

jDPG Panel Discussion “Promotion heute – Wozu?”

Wednesday, March 2, 11:00 – 12:30

Room: F 102

See additional information page 1 in this booklet and on the conference web page.

Exhibition of Scientific Instruments and Literature

From Tuesday, March 1, to Thursday, March 3, there will be an exhibition of scientific instruments and literature in the “Lichthof”. Several companies (see list of exhibitors at the end of this booklet) will present their products. Opening hours are from 09:00 to 17:00. All conference participants are welcome to attend the exhibition. The entrance is free.

Liability Exclusion

Participants are asked to look carefully after their wardrobe, valuables, laptops and other belongings. There can be no liability assumed.

Acknowledgement

The organisers and the local secretary want to thank the following institutions for supporting the conference:

- Wilhelm and Else Heraeus Foundation
- Leibniz Universität Hannover
- Deutsche Forschungsgemeinschaft (DFG)
- all industrial sponsors
- and all staff, who contribute the success of the conference.

Sponsors of the DPG-Frühjahrstagung Hannover 2016

The logo for Thorlabs, featuring the word "THORLABS" in a bold, red, sans-serif font. The letters "LABS" are outlined in white.The logo for MenloSystems, featuring the word "MenloSystems" in a bold, black, sans-serif font. Below the text is a horizontal row of ten small, colored squares in the order: red, orange, yellow, green, cyan, blue, purple, black, white, and grey.

Synopsis of the Daily Programme

Monday, February 29, 2016

Mon

Plenary Talks, Prize Talks

- PV I 09:00 – 09:45 e415
„Atomic physics“ with diatomic molecules“
•*David DeMille*
- PV II 09:45 – 10:30 e415
Processing of transparent materials by ultrashort laser pulses: fundamentals and applications
•*Stefan Nolte*
- PV III 11:00 – 11:45 e415
Chiral Quantum Networks with Photons and Atoms
•*Peter Zoller*
(*Laureate of the Herbert-Walther-Prize*)
- PV IV 11:45 – 12:15 e415
Gedankliche Lawinen
Nina Wentz, •Ingo Wentz
(*Laureates of the Georg-Kerschensteiner-Prize*)

Atomic Physics Division (A)

Invited Talks

- A 3.1 11:00 – 11:30 f303
Interaction of atoms and ions with twisted light
•*Stephan Fritzsche, Daniel Seipt, Andrey Surzhykov*
- A 7.1 14:30 – 15:00 f107
Probing QED in strong fields via the magnetic moment of highly charged ions
•*Sven Sturm*
- A 7.4 15:30 – 16:00 f107
X-ray emission from highly charged ions
•*Andrey Surzhykov, Stephan Fritzsche, Andrey Volotka, Vladimir Yerokhin, Thomas Stöhlker*

Sessions

- A 1 11:00 – 12:45 a310
Precision Measurements and Metrology I (with Q)
- A 2 11:00 – 13:00 e001
Ultracold Atoms, Ions and Molecules I (with Q)
- A 3 11:00 – 13:00 f303
Atomic systems in external fields I
- A 4 11:00 – 12:15 f107
Collisions, scattering and correlation phenomena I
- A 5 14:30 – 16:15 a310
Precision Measurements and Metrology II (with Q)
- A 6 14:30 – 16:30 e001
Ultracold Atoms, Ions and Molecules II (with Q)
- A 7 14:30 – 16:30 f107
Highly charged ions and their applications
- A 8 14:30 – 16:15 f303
Atomic systems in external fields II
- A 9 16:30 – 19:00 Empore Lichthof
Poster: Ultra-cold atoms, ions and BEC (with Q)
- A 10 17:00 – 18:15 a310
Precision Measurements and Metrology III (with Q)
- A 11 17:00 – 18:45 f107
Atomic clusters I (with MO)
- A 12 17:00 – 18:45 f303
Ultracold plasmas and Rydberg systems I (with Q)

Physics Education Division (DD)**Sessions**

- DD 1 14:30 – 16:30 V 407
Hochschuldidaktik 1

- DD 2 14:30 – 16:30 V 404
Neue Medien
- DD 3 14:30 – 16:30 V 405
Lehr- und Lernforschung 1
- DD 4 14:30 – 16:30 V 108
Neue Konzepte 1
- DD 5 16:30 – 19:00 Empore Lichthof
Postersitzung

Short Time-scale Physics Division (K)

Invited Talk

- K 1.1 14:30 – 15:10 f428
Information und Grenze physikalischer
Erkenntnis
•Rudolf Germer

Sessions

- K 1 14:30 – 15:30 f428
Optical Methods and New Applications
- K 2 15:50 – 16:30 f428
Light Sources EUV and Lasers
- 17:00 – 17:30 f428
Annual General Meeting of the Short Time-scale
Division

Molecular Physics Division (MO)

Sessions

- MO 1 11:00 – 13:00 f102
Quantum Control and Femtosecond Spec-
troscopy 1
- MO 2 11:00 – 12:30 f142
Collisions, Energy transfer and ab initio Model-
ling
- MO 3 14:30 – 16:30 f102
Electronic Spectroscopy 1

- MO 4 14:30 – 16:00 f142
Cold Molecules & Helium Droplets 1
- MO 5 17:00 – 18:45 f107
Atomic clusters I (with A)
- MO 6 16:30 – 19:00 Empore Lichthof
Posters: Novelities in Molecular Physics I:
Femtosecond Spectroscopy

Mass Spectrometry Division (MS)

Invited Talks

- MS 1.1 11:00 – 11:30 f128
Towards a nuclear clock: On the direct detection of the Thorium-229 isomer
•Lars von der Wense, Benedict Seiferle, Mustapha Laatiaoui, Peter G. Thirolf
- MS 2.1 14:30 – 15:00 f128
High Precision Comparison of the Antiproton-to-Proton Charge-to-Mass Ratio
•Stefan Ulmer
- MS 3.1 15:15 – 15:45 f128
Mass-Spectroscopic Trace of Transient Reaction Kinetics of CO Oxidation Catalyzed by Uni-Sized Pt Clusters Directly Bound to Si Surface
•Hisato Yasumatsu

Sessions

- MS 1 11:00 – 13:00 f128
Precision Mass Spectrometry and Fundamental Applications I
- MS 2 14:30 – 15:15 f128
Precision Mass Spectrometry and Fundamental Applications II
- MS 3 15:15 – 17:30 f128
Ion Traps, Ion Storage Rings, Molecules, Clusters, Decays and Reactions

Plasma Physics Division (P)

Invited Talks

- Mon
- P 2.1 11:00 – 11:30 b305
Mid-infrared cavity enhanced absorption spectroscopy of gas and surface species
•*Jean-Pierre van Helden, Norbert Lang, Andy Nave, Jürgen Röpcke*
- P 3.1 14:30 – 15:00 b302
Advances in Laser Manipulation of Dusty Plasmas
•*Jan Schablinski, Frank Wieben, Dietmar Block*
- P 4.1 14:30 – 15:00 b305
Impact of electron attachment processes on nonthermal plasmas
•*Jürgen Meichsner, Sebastian Nemschokmichal, Robert Tschiersch, Thomas Wegner*

Sessions

- P 1 11:00 – 13:05 b302
Helmholtz Graduate School for Plasma Physics I
- P 2 11:00 – 13:10 b305
Plasma Diagnostics I
- P 3 14:30 – 16:10 b302
Dusty Plasmas I
- P 4 14:30 – 16:35 b305
Plasma Technology
- P 5 16:30 – 19:00 Empore Lichthof
Poster: Helmholtz Graduate School for Plasma Physics

Quantum Optics and Photonics Division (Q)

Sessions

- Q 1 11:00 – 12:45 a310
Precision Measurements and Metrology I (with A)
- Q 2 11:00 – 13:00 e001
Ultracold Atoms, Ions and Molecules I (with A)

- Q 3 11:00 – 13:00 e214
Quantum Information: Concepts and Methods I
- Q 4 11:00 – 12:45 f342
Photonics I
- Q 5 11:00 – 13:00 f442
Quantum Optics I
- Q 6 14:30 – 16:15 a310
Precision Measurements and Metrology II
(with A)
- Q 7 14:30 – 16:30 e001
Ultracold Atoms, Ions and Molecules II (with A)
- Q 8 14:30 – 16:30 e214
Quantum Information: Concepts and Methods II
- Q 9 14:30 – 16:15 f342
Photonics II
- Q 10 14:30 – 16:30 f442
Quantum Optics II
- Q 11 16:30 – 19:00 Empore Lichthof
Poster: Quantum Optics and Photonics I
- Q 12 16:30 – 19:00 Empore Lichthof
Poster: Ultra-cold atoms, ions and BEC (with A)
- Q 13 17:00 – 18:15 a310
Precision Measurements and Metrology III
(with A)
- Q 14 17:00 – 18:45 f303
Ultracold plasmas and Rydberg systems I
(with A)
- Q 15 17:00 – 18:15 f442
Quantum Effects: Disorder

**Opening and Welcome Evening
(for registered participants only)**

19:30

Mensa

Tuesday, March 1, 2016

Plenary Talks

- PV V 09:00 – 09:45 e415
The first operation of the superconducting optimized stellarator fusion device Wendelstein 7-X
•*Thomas Klinger*
- PV VI 09:45 – 10:15 e415
Stimulated Raman Adiabatic Passage (STIRAP): a concept conquering new territory.
•*Klaas Bergmann*

Symposium SAMOP Dissertation-Prize 2016 (SYAD)

Invited Talks

- SYAD 1.1 11:00 – 11:30 e415
Artificial gauge fields and topology with ultracold atoms in optical lattices
•*Monika Aidelsburger*
- SYAD 1.2 11:30 – 12:00 e415
Many-body physics with impurities in ultracold quantum gases
•*Fabian Grusdt*
- SYAD 1.3 12:00 – 12:30 e415
How to determine the handedness of single molecules
•*Martin Pitzer*
- SYAD 1.4 12:30 – 13:00 e415
Quantum systems under gravitational time dilation
•*Magdalena Zych*

Session

- SYAD 1 11:00 – 13:00 e415
SAMOP Dissertation-Prize

PhD Symposium Synthesized Gauge Fields and Experimental Realizations (SYPS)

Invited Talks

- SYPS 1.1 14:30 – 15:00 e415
Artificial magnetism and cold atomic gases
•*Jean Dalibard*
- SYPS 1.2 15:00 – 15:30 e415
Gauge fields in multi-level atoms: a tutorial
•*Ian B. Spielman*
- SYPS 1.3 15:30 – 16:00 e415
Controlling and Exploring Topological Bloch Bands Using Ultracold Atoms
•*Immanuel Bloch*
- SYPS 1.4 16:00 – 16:30 e415
Observing edge states with ultracold neutral fermions in synthetic dimensions
•*Leonardo Fallani*

Session

- SYPS 1 14:30 – 16:30 e415
Promovierendensymposium

Atomic Physics Division (A)

Invited Talk

- A 16.1 14:30 – 15:00 f142
Observation of the Efimov state of the helium trimer
•*Maksim Kunitski, Stefan Zeller, Jörg Voigtsberger, Anton Kalinin, Lothar Ph. H. Schmidt, Markus Schöffler, Achim Czasch, Wieland Schöllkopf, Robert E. Grisenti, Till Jahnke, Dörte Blume, Reinhard Dörner*

Sessions

- A 13 11:00 – 13:00 a310
Precision Measurements and Metrology IV (with Q)
- A 14 11:00 – 13:15 f342
Ultracold Atoms, Ions and Molecules III (with Q)

- A 15 14:30 – 16:30 f107
Atomic clusters II (with MO)
- A 16 14:30 – 16:30 f142
Collisions, scattering and correlation phenomena II
- A 17 14:30 – 16:30 f303
Ultracold plasmas and Rydberg systems II (with Q)
- A 18 16:30 – 19:00 Empore Lichthof
Poster: Highly charged ions and their applications
- A 19 16:30 – 19:00 Empore Lichthof
Poster: Collisions, scattering and correlation phenomena
- A 20 16:30 – 19:00 Empore Lichthof
Poster: Atomic systems in external fields
- A 21 16:30 – 19:00 Empore Lichthof
Poster: Interaction with strong or short laser pulses
- A 22 16:30 – 19:00 Empore Lichthof
Poster: Interaction with VUV and X-ray light

Physics Education Division (DD)

Invited Talks

- DD 6.1 11:00 – 12:00 f303
Experimente mit Smartphone, Tablet-PC & Co.:
Möglichkeiten und Grenzen in Physikunterricht
und -studium
•*Jochen Kuhn*
- DD 7.1 12:00 – 13:00 f303
Fachdidaktische Forschung in Physikalischen
Praktika – Einblicke und Ausblicke
•*Heidrun Heinke*

Sessions

- DD 6 11:00 – 12:00 f303
Hauptvortrag 1

- DD 7 12:00 – 13:00 f303
Hauptvortrag 2
- DD 8 14:30 – 16:30 V 407
Hochschuldidaktik 2
- DD 9 14:30 – 16:30 V 404
Lehreraus- und Lehrerfortbildung
- DD 10 14:30 – 16:10 V 405
Neue Konzepte 2
- DD 11 14:30 – 16:30 V 108
Neue Konzepte 3 / Praktika, neue Praktikums-
versuche
- DD 12 14:30 – 16:30 V 110
Sonstiges
- 17:00 – 19:00 f107
Annual General Meeting of the Physics Educa-
tion Division

Short Time-scale Physics Division (K)

Invited Talk

- K 3.1 14:30 – 15:10 f428
Vibrational-rotational and electronic tempera-
tures in laser induced plasma of polyethylene
determined by optical emission spectroscopy
• *Johannes Heitz, Juraj Jasik, Johannes D. Pedar-
nig, Pavel Veis*

Sessions

- K 3 14:30 – 16:30 f428
Laser Applications and Laser Matter Interac-
tions I
- K 4 16:30 – 19:00 Empore Lichthof
Poster Session

Molecular Physics Division (MO)

Invited Talks

- MO 7.1 11:00 – 11:30 f102
Monitoring ultrafast excited-state intramolecular proton transfer by ultrafast electronic and fluorescence spectroscopy
•*Andreas Steinbacher, Pramod Kumar Verma, Frederico Koch, Alexander Schmiedel, Patrick Nuernberger, Tobias Brixner*
- MO 9.1 14:30 – 15:00 f102
Structural investigations on a linear depsipeptide and cyclopeptides by combined IR/UV spectroscopy: Importance of dispersion interactions
Anke Stamm, Dominic Bernhard, •Markus Gerhards

Sessions

- MO 7 11:00 – 13:00 f102
Femtosecond Spectroscopy 2
- MO 8 11:00 – 13:00 f142
Experimental Techniques
- MO 9 14:30 – 16:30 f102
Biomolecules and Photochemistry
- MO 10 14:30 – 16:30 f107
Atomic clusters II (with A)
- MO 11 16:30 – 19:00 Empore Lichthof
Poster: Novelties in Molecular Physics II:
Femtosecond Spectroscopy, Quantum Control,
Electronic Spectroscopy, Biomolecules and
Photochemistry

Mass Spectrometry Division (MS)

Invited Talk

- MS 4.1 14:30 – 15:00 f128
Applications of ISOLTRAPs multi-reflection time-of-flight mass spectrometer
•*Frank Wienholtz*

Sessions

- MS 4 14:30 – 16:30 f128
Resonance Ionization MS and others

MS 5 16:30 – 19:00 Empore Lichthof
Poster session I

Plasma Physics Division (P)

Invited Talks

- P 6.1 11:00 – 11:30 b302
ns-Pulsed Micro-Plasmas at Atmospheric Pressures
•*Uwe Czarnetzki*
- P 7.1 11:00 – 11:30 b305
Erste Ergebnisse an Wendelstein 7-X
•*Hans-Stephan Bosch, W7-X Team*
- P 8.1 14:30 – 15:00 b302
Nanometer-scale characterization of laser-driven plasmas, compression, shocks and phase transitions, by coherent small angle x-ray scattering
•*Thomas Kluge, Melanie Rödel, Alexander Pelka, Emma McBride, Luke Fletcher, Christian Rödel, Siegfried Glenzer, Michael Bussmann, Ulrich Schramm, Thomas Cowan*
- P 9.1 14:30 – 15:00 b305
Computer simulations of correlated fermions – from quantum plasmas to ultracold atoms and plasma-surface interaction
•*Michael Bonitz*

Sessions

- P 6 11:00 – 12:55 b302
Low temperature plasmas I
- P 7 11:00 – 12:55 b305
Magnetic Confinement I
- P 8 14:30 – 17:00 b302
Laser Plasmas I
- P 9 14:30 – 16:40 b305
Theory and Modelling I
- P 10 16:30 – 19:00 Empore Lichthof
Poster: Dusty Plasmas

- P 11 16:30 – 19:00 Empore Lichthof
Poster: Plasma Wall Interaction
- P 12 16:30 – 19:00 Empore Lichthof
Poster: Magnetic Confinement

Quantum Optics and Photonics Division (Q)

Sessions

- Q 16 11:00 – 13:00 a310
Precision Measurements and Metrology IV
(with A)
- Q 17 11:00 – 13:00 e001
Quantum Gases: Bosons I
- Q 18 11:00 – 13:00 e214
Quantum Information: Concepts and Methods
III
- Q 19 11:00 – 13:15 f342
Ultracold Atoms, Ions and Molecules III (with A)
- Q 20 11:00 – 13:00 f442
Quantum Optics III
- Q 21 14:30 – 16:30 a310
Matter Wave Optics
- Q 22 14:30 – 16:30 e001
Quantum Gases: Bosons II
- Q 23 14:30 – 16:30 e214
Quantum Information: Concepts and Methods
IV
- Q 24 14:30 – 16:30 f303
Ultracold plasmas and Rydberg systems II
(with A)
- Q 25 14:30 – 16:45 f342
Nano-Optics I
- Q 26 14:30 – 16:00 f442
Quantum Optics IV
- Q 27 16:30 – 19:00 Empore Lichthof
Poster: Quantum Optics and Photonics II

Exhibition of Scientific Instruments and Literature

09:00 – 17:00 Lichthof

Tue

Wednesday, March 2, 2016

Plenary Talks

- PV VII 09:00 – 09:45 e415
Smoking guns of Anderson localization
•*Dominique Delande*
- PV VIII 09:45 – 10:30 e415
Organic chemistry in space and the challenge
of searching for life beyond Earth
•*Pascale Ehrenfreund*

Symposium From First Molecules to Life (SYML)

Invited Talks

- SYML 1.1 11:00 – 11:30 e415
Laboratory studies of interstellar molecules:
from the first molecules to complex organics in
space
•*Holger Kreckel*
- SYML 1.2 11:30 – 12:00 e415
Detecting astrophysically relevant ions in labo-
ratory and space
•*Stephan Schlemmer*
- SYML 1.3 12:00 – 12:30 e415
Interstellar ice – a hot topic
•*Harold Linnartz*
- SYML 1.4 12:30 – 13:00 e415
Exoplanets: The Thorny Path to Habitable
Conditions
•*Manuel Güdel*
- SYML 2.1 14:30 – 15:00 e415
Physics with keV Ion Beams in the Cryogenic
Storage Ring CSR
•*Andreas Wolf*
- SYML 2.3 15:15 – 15:45 e415
A generalized theory for rovibrational motion in
cold, extremely floppy molecules
•*Hanno Schmiedt, Per Jensen, Stephan Schlemmer*

SYML 2.6 16:15 – 16:45 e415
Lead-cluster investigations at ClusterTrap
*Stephan König, Paul Fischer, Gerrit Marx, *Lutz Schweikhard, Markus Wolfram, Albert Vass*

Sessions

SYML 1 11:00 – 13:00 e415
From First Molecules to Life

SYML 2 14:30 – 16:45 e415
Molecules and Ions in Isolation

Atomic Physics Division (A)

Invited Talks

A 25.1 14:30 – 15:00 f107
Describing the correlated electron dynamics in atoms and molecules
•*Sebastian Bauch*

A 27.1 14:30 – 15:00 f428
Atomic level scheme of neutral actinium
•*Sebastian Raeder, Randolf Beerwerth, Rafael Ferrer, Camilo Granados, Amin Hakimi, Mustapha Laataoui, Volker Sonnenschein, Norbert Trautmann, Klaus Wendt*

Sessions

A 23 11:00 – 13:00 f107
Ultra-cold atoms, ions and BEC I (with Q)

A 24 11:00 – 13:00 f303
Interaction with strong or short laser pulses I

A 25 14:30 – 16:30 f107
Interaction with strong or short laser pulses II

A 26 14:30 – 16:30 f303
Ultra-cold atoms, ions and BEC II (with Q)

A 27 14:30 – 16:30 f428
Precision spectroscopy of atoms and ions I (with Q)

A 28 16:30 – 19:00 Empore Lichthof
Poster: Ultracold plasmas and Rydberg systems (with Q)

- A 29 16:30 – 19:00 Empore Lichthof
Poster: Atomic clusters (with MO)
- A 30 16:30 – 19:00 Empore Lichthof
Poster: Precision spectroscopy of atoms and ions
(with Q)
- A 31 16:30 – 19:00 Empore Lichthof
Poster: Attosecond physics

Physics Education Division (DD)

Invited Talk

- DD 18.1 14:30 – 15:30 f102
Experimentieren im Physikunterricht:
eigentlich klar – oder doch nicht?
•*Peter Labudde*

Sessions

- DD 13 11:00 – 13:00 V 407
Neue Konzepte 4
- DD 14 11:00 – 13:00 V 404
Anregungen aus dem Unterricht für den Unter-
richt
- DD 15 11:00 – 13:00 V 111
Lehr- und Lernforschung 2
- DD 16 11:00 – 13:00 V 110
Astronomie
- DD 17 11:00 – 13:00 V 108
Präsentation von Experimenten
- DD 18 14:30 – 15:30 f102
Hauptvortrag 3

Short Time-scale Physics Division (K)

Invited Talk

- K 5.1 11:00 – 11:40 f428
Strahl- und Optikcharakterisierung für Anwen-
dungen in der Laser-Materialbearbeitung
•*Bernd Schäfer, Klaus Mann*

Session

- K 5 11:00 – 13:00 f428
Laser Applications and Laser Matter Processing II

Molecular Physics Division (MO)

Sessions

- MO 12 11:00 – 13:00 e415
Symposium SYML: From First Molecules to Life (with MS)
- 13:00 – 13:30 e415
Annual General Meeting of the Molecular Physics Division
- MO 13 14:30 – 16:45 e415
Symposium SYML: Molecules and Ions in Isolation (with MS)
- MO 14 16:30 – 19:00 Empore Lichthof
Poster: Novelties in Molecular Physics III: Theory of Molecular Dynamics, Collisions and Energy Transfer, and Experimental Techniques

Mass Spectrometry Division (MS)

Session

- MS 6 16:30 – 19:00 Empore Lichthof
Poster session II

Plasma Physics Division (P)

Invited Talks

- P 13.1 11:00 – 11:30 b302
Power exhaust by impurity seeding in fusion reactors
•Matthias Bernert, Felix Reimold, Arne Kallenbach, Bruce Lipschultz, Ralph Dux, Marco Wischmeier, the ASDEX Upgrade team, the EUROfusion MST1 Team

- P 17.1 14:30 – 15:00 b305
 Plasma measurement and control: challenges
 and recent advances
 •*Timo Gans*

Sessions

- P 13 11:00 – 12:15 b302
 Plasma Wall Interactions
- P 14 11:00 – 12:25 b305
 Dusty Plasmas II
- P 15 12:30 – 13:30 b305
 Annual General Meeting of the Plasma Physics
 Division
- P 16 14:30 – 16:55 b302
 Theory and Modelling II
- P 17 14:30 – 16:35 b305
 Plasma Diagnostics II
- P 18 16:30 – 19:00 Empore Lichthof
 Poster: Plasma Technology
- P 19 16:30 – 19:00 Empore Lichthof
 Poster: Laser Plasmas
- P 20 16:30 – 19:00 Empore Lichthof
 Poster: Low Temperature Plasmas

Quantum Optics and Photonics Division (Q)

Sessions

- Q 28 11:00 – 13:00 a310
 Laser Development I
- Q 29 11:00 – 13:00 e001
 Quantum Gases: Bosons III
- Q 30 11:00 – 13:00 e214
 Quantum Information: Concepts and Methods V
- Q 31 11:00 – 13:00 f107
 Ultra-cold atoms, ions and BEC I (with A)

- Q 32 11:00 – 13:00 f342
Biophotonics
- Q 33 11:00 – 13:00 f442
Quantum Effects: Entanglement and Decoherence I
- Q 34 13:15 – 14:15 a310
Annual General Meeting of the Quantum Optics and Photonics Divisions
- Q 35 14:30 – 16:00 a310
Laser Development II
- Q 36 14:30 – 16:15 e001
Quantum Gases: Bosons IV
- Q 37 14:30 – 16:30 e214
Quantum Information: Concepts and Methods VI
- Q 38 14:30 – 16:30 f303
Ultra-cold atoms, ions and BEC II (with A)
- Q 39 14:30 – 16:30 f342
Nano-Optics II
- Q 40 14:30 – 16:30 f428
Precision spectroscopy of atoms and ions I (with A)
- Q 41 14:30 – 16:30 f442
Quantum Effects: Entanglement and Decoherence II
- Q 42 16:30 – 19:00 Empore Lichthof
Poster: Quantum Optics and Photonics III
- Q 43 16:30 – 19:00 Empore Lichthof
Poster: Ultracold plasmas and Rydberg systems (with A)
- Q 44 16:30 – 19:00 Empore Lichthof
Poster: Precision spectroscopy of atoms and ions (with A)

Working Group „Young DPG“ (AGjDPG)

Session

AGjDPG 1 11:00 – 12:30 f102

Panel Discussion „Promotion heute – Wozu?“

Exhibition of Scientific Instruments and Literature

09:00 – 17:00 Lichthof

Public Evening Talk (Free Entrance)

PV IX 19:30 – 20:30 e415

Gravitationswellenastronomie:

Neues von der dunklen Seite des Universums!

•*Karsten Danzmann*

Thursday, March 3, 2016

Plenary Talks

- PV X 09:00 – 09:45 e415
Femtosecond x-ray induced dynamics of fullerenes using FELs and IR
•*Nora Berrah*
- PV XI 09:45 – 10:30 e415
Quantum gas of polar molecules
•*Jun Ye*

Symposium Biomedical Optics (SYBO)

Invited Talks

- SYBO 1.1 11:00 – 11:30 e415
Recent advances of Optical Coherence Tomography
•*Wolfgang Drexler*
- SYBO 1.2 11:30 – 12:00 e415
Vortex-beams for precise and gentle dissection in refractive corneal surgery
•*Alfred Vogel, Sebastian Freidank, Norbert Linz*
- SYBO 1.3 12:00 – 12:30 e415
Structured Illumination and the Analysis of Single Molecules in Cells
•*Rainer Heintzmann*
- SYBO 1.4 12:30 – 13:00 e415
Biophotonics – a potential solution to unmet medical needs!?
•*Juergen Popp*
- SYBO 2.1 14:30 – 15:00 e415
Smart and multimodal light sheet microscopy
•*Jan Huiskens*
- SYBO 2.2 15:00 – 15:30 e415
Laser Applications at the Cochlea: Imaging and Stimulation
•*Alexander Heisterkamp, Nicole Kallweit, Peter Baumhoff, Alexander Krueger, Nadine Tinne, Heiko Meyer, Andrej Kral, Hannes Maier, Tammo Ripken*

SYBO 2.3 15:30 – 16:00 e415
Sculpted light landscapes for optical micro-
manipulation
*Christina Alpmann, Alvaro Barroso Pena, Eileen
Otte, Kathrin Dieckmann, •Cornelia Denz*

SYBO 2.4 16:00 – 16:30 e415
Optogenetics: Lighting Up the Brain
•*Gero Miesenboeck*

Sessions

SYBO 1 11:00 – 13:00 e415
Symposium Biomedical Optics 1

SYBO 2 14:30 – 16:30 e415
Symposium Biomedical Optics 2

Atomic Physics Division (A)

Invited Talks

A 33.1 11:00 – 11:30 f303
Imaging single nanoparticles with intense XUV
pulses from a high-order harmonic generation
source
•*D. Rupp, B. Langbehn, M. Sauppe, N. Monserud,
A. Ulmer, J. Zimmermann, T. Möller, F. Frassetto, A.
Trabattoni, F. Calegari, M. Vrakking, A. Rouzee*

A 34.1 11:00 – 11:30 f428
The magnetic moment of the antiproton
•*Stefan Sellner, Klaus Blaum, Matthias Borchert,
Takashi Higuchi, Nathan Leefer, Yasuyuki Matsu-
da, Andreas Mooser, Hiroki Nagahama, Christian
Ospelkaus, Wolfgang Quint, Georg Schneider, Chri-
stian Smorra, Toya Tanaka, Jochen Walz, Yasunori
Yamazaki, Stefan Ulmer*

A 35.1 14:30 – 15:00 f107
History and current status of the Keldysh
theory
•*Sergey Popruzhenko*

- A 35.2 15:00 – 15:30 f107
 Multidimensional control of XUV-initiated high harmonic generation
Doron Azoury, •Michael Krüger, Henrik R. Larsson, Sebastian Bauch, David J. Tannor, Barry D. Bruner, Nirit Dudovich

Sessions

- A 32 11:00 – 13:00 f107
 Ultra-cold atoms, ions and BEC III (with Q)
- A 33 11:00 – 12:45 f303
 Interaction with strong or short laser pulses III
- A 34 11:00 – 13:00 f428
 Precision spectroscopy of atoms and ions II (with Q)
- 13:15 – 14:00 f107
 Annual General Meeting of the Atomic Physics Division
- A 35 14:30 – 16:30 f107
 Attosecond physics
- A 36 14:30 – 16:30 f303
 Ultra-cold atoms, ions and BEC IV (with Q)

Molecular Physics Division (MO)

Invited Talks

- MO 15.1 11:00 – 11:30 f102
 Imaging of an autoionizing resonance using time-, energy- and angular-resolved photoelectron spectroscopy.
Martin Eckstein, Chung-Hsin Yang, Fabio Frassetto, Luca Poletto, Giuseppe Sansone, Marc J. J. Vrakking, •Oleg Kornilov
- MO 16.1 11:00 – 11:30 f142
 Vibrational spectra, structures, and chemical bonding of silicon hydride cluster cations
 •*Otto Dopfer*

MO 16.2 11:30 – 12:00 f142
Far-infrared spectroscopy of metal cluster rare-gas complexes
David Yubero Valdivielso, Valery Chernyy, Dennis Palagin, Joost M. Bakker, •André Fielicke

Sessions

MO 15 11:00 – 13:15 f102
Femtosecond Spectroscopy 3

MO 16 11:00 – 13:15 f142
Molecular Clusters

MO 17 14:30 – 16:00 f102
Electronic Spectroscopy 2

MO 18 14:30 – 16:15 f142
The Modelling of Molecular Dynamics

MO 19 16:30 – 19:00 Empore Lichthof
Poster: Novelties in Molecular Physics IV:
Femtosecond Spectroscopy, Molecular Clusters, Cold Molecules and Helium Droplets

Mass Spectrometry Division (MS)

Invited Talks

MS 7.1 11:00 – 11:30 f128
The ILIAS project – Isobar suppression in AMS by laser photodetachment
•Martin Martschini, Pontus Andersson, Oliver Forstner, Dag Hanstorp, Johannes Lachner, Yuan Liu, Tobias Moreau, Johanna Pitters, Alfred Priller, Peter Steier, Robin Golser

MS 9.1 14:30 – 15:00 f128
Multi-actinide analysis with AMS for ultra-trace determination and small sample sizes: advantages and drawbacks
•Francesca Quinto, Markus Lagos, Markus Plaschke, Thorsten Schäfer, Peter Steier, Robin Golser, Horst Geckeis

Sessions

MS 7 11:00 – 12:45 f128
Accelerator Mass Spectrometry and Applications I

- MS 8 12:45 – 13:15 f128
Annual General Meeting of the Mass Spectrometry Division
- MS 9 14:30 – 16:15 f128
Accelerator Mass Spectrometry and Applications II
- MS 10 16:30 – 19:00 Empore Lichthof
Poster session III

Plasma Physics Division (P)

Invited Talks

- P 21.1 11:00 – 11:30 b302
The behavior of helium in fusion plasmas
•Athina Kappatou, Rachael M. McDermott, Clemente Angioni, Thomas Pütterich, Ralph Dux, Michael G. Dunne, Rudolf Neu, Alexander Lebschy, Eleonora Viezzer, Marco Cavedon, the EUROfusion MST1 Team, the ASDEX Upgrade Team
- P 21.2 11:30 – 12:00 b302
Energy and Particle Core Transport in Tokamaks and Stellarators compared
•Marc Beurskens, Clemente Angioni, Craig Beidler, Andreas Dinklage, Golo Fuchert, Matthias Hirsch, Thomas Puetterich, Robert Wolf
- P 22.1 11:00 – 11:30 b305
Fluid-kinetisches Hybrid Modell für Plasmarandtransport in He-Plasma am Stellarator Wendelstein 7-X
•Michael Rack, Detlev Reiter, Felix Hasenbeck, Yuhe Feng, Petra Börner
- P 24.1 14:30 – 15:00 b305
Design and characteristics of the COST Reference Microplasma Jet for bio-medicine
•Judith Golda, Julian Held, Volker Schulz-von der Gathen

Sessions

- P 21 11:00 – 12:55 b302
Magnetic Confinement II
- P 22 11:00 – 13:10 b305
Theory and Modelling III

- P 23 14:30 – 16:25 b302
Helmholtz Graduate School for Plasma II
- P 24 14:30 – 16:25 b305
Low Temperature Plasmas II
- P 25 16:30 – 19:00 Empore Lichthof
Poster: Theory and Modelling
- P 26 16:30 – 19:00 Empore Lichthof
Poster: Plasma Diagnostics

Quantum Optics and Photonics Division (Q)

Sessions

- Q 45 11:00 – 13:00 a310
Ultrashort Laser Pulses I
- Q 46 11:00 – 12:45 e001
Quantum Gases: Bosons V
- Q 47 11:00 – 13:00 e214
Quantum Information: Quantum Computing and
Communication I
- Q 48 11:00 – 13:00 f107
Ultra-cold atoms, ions and BEC III (with A)
- Q 49 11:00 – 13:00 f342
Optomechanics I
- Q 50 11:00 – 13:00 f428
Precision spectroscopy of atoms and ions II
(with A)
- Q 51 11:00 – 13:00 f442
Quantum Effects: QED I
- Q 52 14:30 – 16:30 a310
Ultrashort Laser Pulses II
- Q 53 14:30 – 16:45 e001
Quantum Gases: Fermions I
- Q 54 14:30 – 16:30 e214
Quantum Information: Quantum Computing and
Communication II

- Q 55 14:30 – 16:30 f303
Ultra-cold atoms, ions and BEC IV (with A)
- Q 56 14:30 – 15:45 f342
Optomechanics II
- Q 57 14:30 – 16:30 f442
Quantum Effects: QED II
- Q 58 16:30 – 19:00 Empore Lichthof
Poster: Quantum Optics and Photonics IV
- Q 59 16:30 – 19:00 Empore Lichthof
Poster: Symposium Biomedical Optics (SYBO)

Exhibition of Scientific Instruments and Literature

09:00 – 17:00 Lichthof

Friday, March 4, 2016

Plenary Talks

- PV XII 09:00 – 09:45 e415
Quantum Computing to advance Artificial Intelligence: Where do we stand?
•*Hartmut Neven*
- PV XIII 09:45 – 10:30 e415
Polaritons in two dimensional semiconductors
•*Atac Imamoglu*

Symposium Advanced Concepts for High Peak Power Ultrafast Lasers (SYUL)

Invited Talks

- SYUL 1.1 11:00 – 11:50 e415
Exawatt laser concepts for extreme field science
•*Chris Barty*
- SYUL 1.2 11:50 – 12:20 e415
Generation of short pulses with ultra-high temporal contrast at the PHELIX petawatt facility
•*Vincent Bagnoud*
- SYUL 1.3 12:20 – 12:50 e415
Petawatt lasers for particle acceleration at HZDR Dresden
•*Ulrich Schramm*
- SYUL 1.4 12:50 – 13:20 e415
High-intensity few-cycle pulses with ultrahigh temporal contrast
•*Stefan Karsch, Alexander Kessel, Christoph Skrobol, Mathias Krüger, Christoph Wandt, Sandro Klingebiel, Olga Lysov, Izhar Ahmad, Sergei Trushin, Vyacheslav Leshchenko, Zsuzsanna Major, Ferenc Krausz*
- SYUL 2.1 14:00 – 14:30 e415
Coherent Combination of Ultrafast Fiber Lasers
•*Jens Limpert*

SYUL 2.2 14:30 – 15:00 e415
Cryogenic multipass amplifiers for high peak and average power ultrafast lasers
•*Luis E. Zapata*

SYUL 2.3 15:00 – 15:30 e415
Multi-TW infrared laser using Frequency domain Optical Parametric Amplification
•*Bruno E. Schmidt, Philippe Lassonde, Guilmoth Ernotte, Mathieu Giguere, Nicolas Thire, Antoine Laramee, Heide Ibrahim, Francois Legare*

Sessions

SYUL 1 11:00 – 13:20 e415
Advanced Concepts for High Peak Power Ultrafast Lasers I

SYUL 2 14:00 – 15:30 e415
Advanced Concepts for High Peak Power Ultrafast Lasers II

Atomic Physics Division (A)

Invited Talk

A 39.1 11:00 – 11:30 f303
Enhanced ionization of embedded clusters by electron transfer mediated decay in helium nanodroplets
•*A. C. LaForge, V. Stumpf, K. Gokhberg, J. von Vangerow, N. V. Kryzhevoi, P. O'Keeffe, A. Ciavardini, S. Krishnan, K. C. Prince, R. Richter, R. Moshhammer, T. Pfeifer, L. S. Cederbaum, F. Stienkemeier, M. Mudrich*

Sessions

A 37 11:00 – 13:20 e415
Advanced Concepts for High Peak Power Ultrafast Lasers I

A 38 11:00 – 13:00 f107
Ultra-cold atoms, ions and BEC V (with Q)

A 39 11:00 – 13:15 f303
Interaction with VUV and X-ray light

- A 40 11:00 – 12:45 f428
Precision spectroscopy of atoms and ions III
(with Q)
- A 41 14:00 – 15:30 e415
Advanced Concepts for High Peak Power Ultrafast Lasers II

Molecular Physics Division (MO)

Invited Talks

- MO 21.1 11:00 – 11:30 f142
Rotational state thermometry of hydroxyl anions at the Cryogenic Storage Ring (CSR)
•*Christian Meyer, Arno Becker, Klaus Blaum, Christian Breitenfeldt, Sebastian George, Jürgen Göck, Manfred Grieser, Florian Grussie, Philipp Herwig, Jonas Karthein, Claude Krantz, Holger Kreckel, Sunil Kumar, Jorrit Lion, Svenja Lohmann, Preeti M. Mishra, Oldřich Novotný, Aodh P. O'Connor, Roland Repnow, Kaija Spruck, Stefan Schippers, Dirk Schwalm, Lutz Schweikhard, Stephen Vogel, Robert von Hahn, Andreas Wolf*

- MO 21.6 12:30 – 13:00 f142
Infrared Spectroscopy of mass/charge selected biomolecules in liquid helium droplets
•*Gert von Helden*

Sessions

- MO 20 11:00 – 13:00 f102
Femtosecond Spectroscopy 4
- MO 21 11:00 – 13:00 f142
Cold Molecules & Helium Droplets 2

Mass Spectrometry Division (MS)

Invited Talk

- MS 11.1 11:00 – 11:30 f128
Accelerator Mass Spectrometry at AARAMS
•*Jesper Olsen*

Session

- MS 11 11:00 – 12:45 f128
Accelerator Mass Spectrometry and Applications III

Plasma Physics Division (P)

Session

- P 27 11:00 – 12:45 b305
Low Temperature Plasmas III

Quantum Optics and Photonics Division (Q)

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- Q 60 11:00 – 13:00 a310
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- Q 61 11:00 – 13:15 e001
Quantum Gases: Fermions II
- Q 62 11:00 – 12:45 e214
Quantum Information: Quantum Computing and Communication III
- Q 63 11:00 – 13:00 f107
Ultra-cold atoms, ions and BEC V (with A)
- Q 64 11:00 – 12:30 f342
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- Q 65 11:00 – 12:45 f428
Precision spectroscopy of atoms and ions III (with A)
- Q 66 11:00 – 12:45 f442
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- Q 67 14:30 – 15:15 a310
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- Q 69 14:30 – 16:00 e214
Quantum Information: Quantum Computing and Communication IV

- Q 70 14:30 – 16:00 f342
 Quantum Gases: Bosons VI
- Q 71 14:30 – 16:30 f442
 Quantum Effects: QED IV
- Q 72 15:30 – 16:30 a310
 Ultrashort Laser Pulses III



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APE Angewandte Physik und Elektronik GmbH Plauener Straße 163 - 165, Haus 13, 13053 Berlin <i>Die A·P·E GmbH ist ein führendes Unternehmen im Bereich der optisch parametrischen Oszillatoren, der Diagnostik und Handhabung von ultrakurzen Pulsen, der Generierung Harmonischer wie auch der Akustooptik.</i>	36
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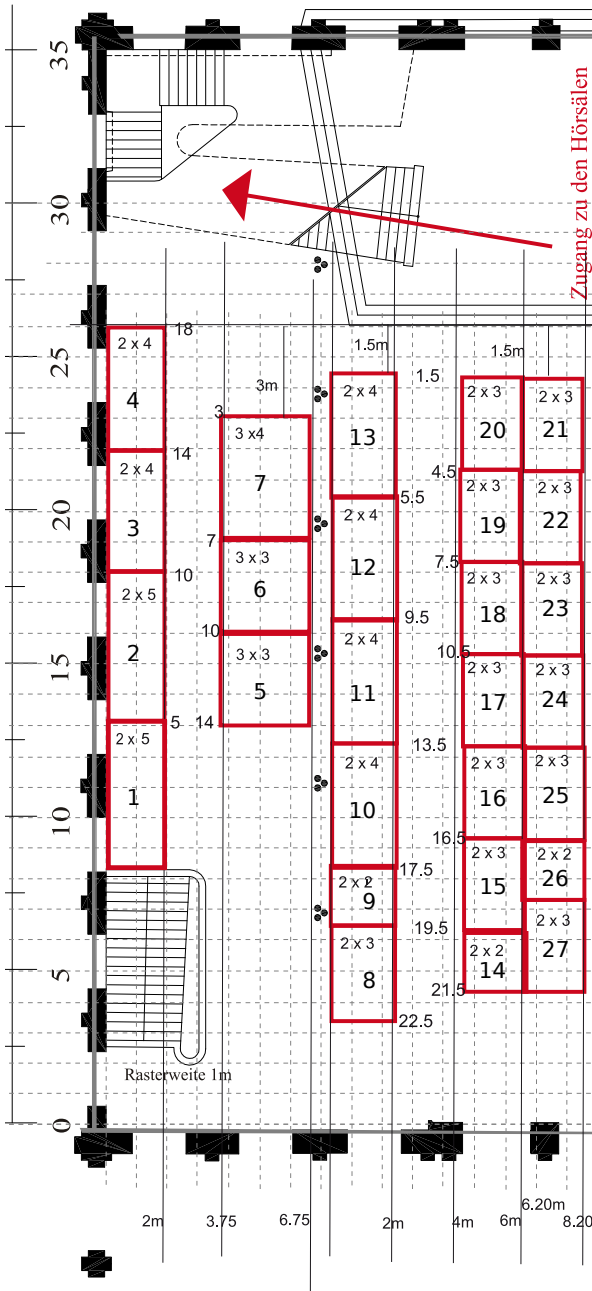
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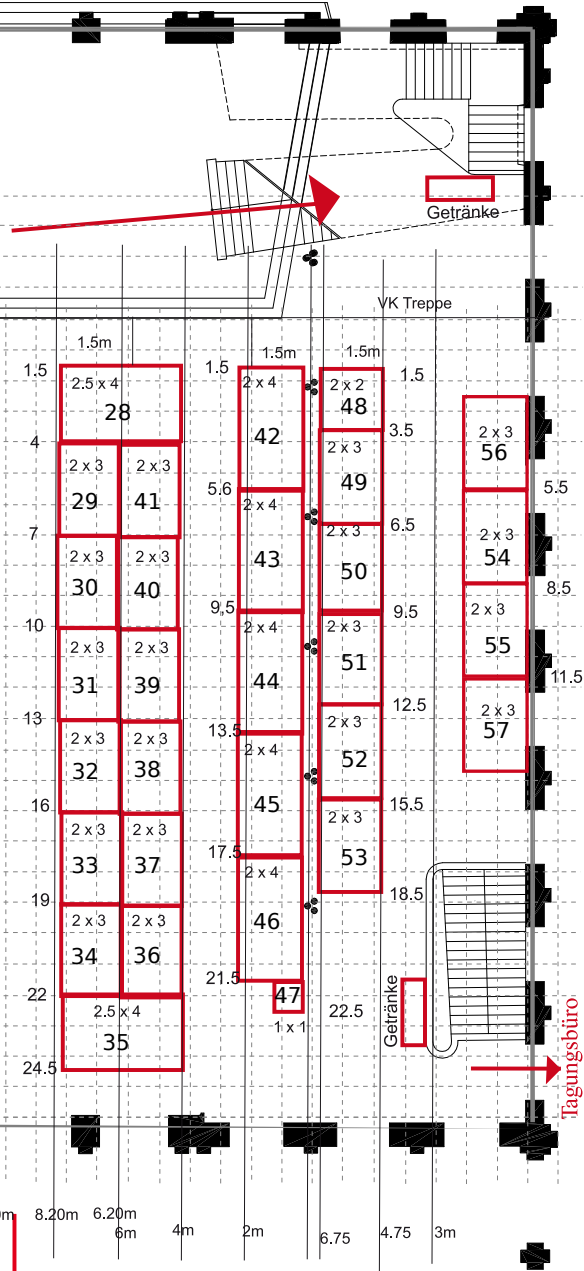
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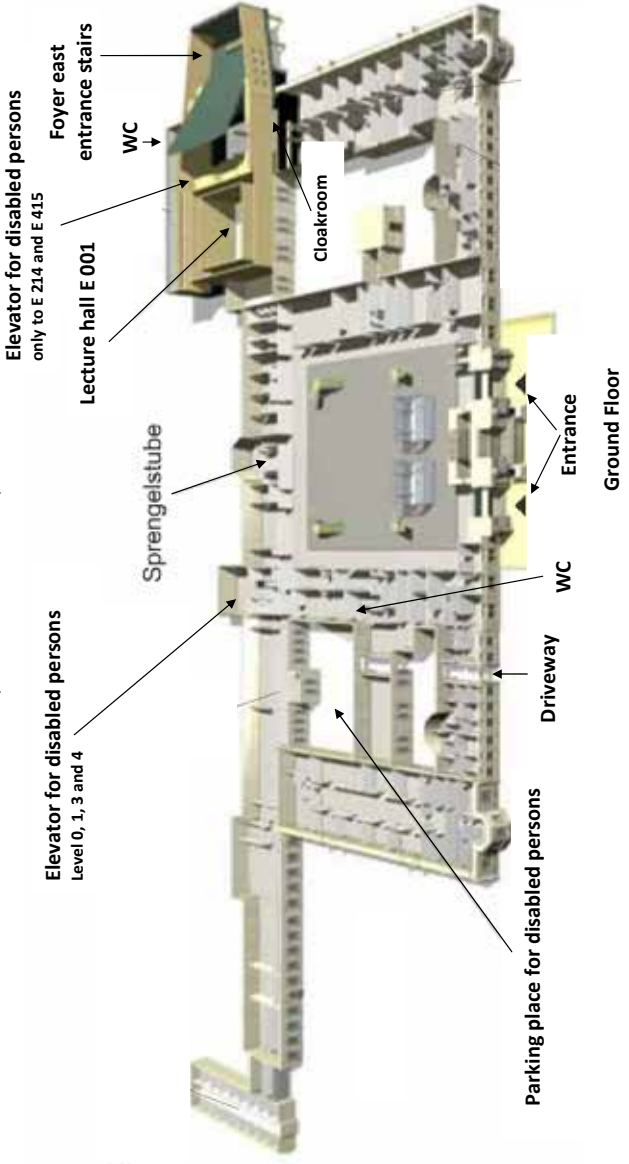


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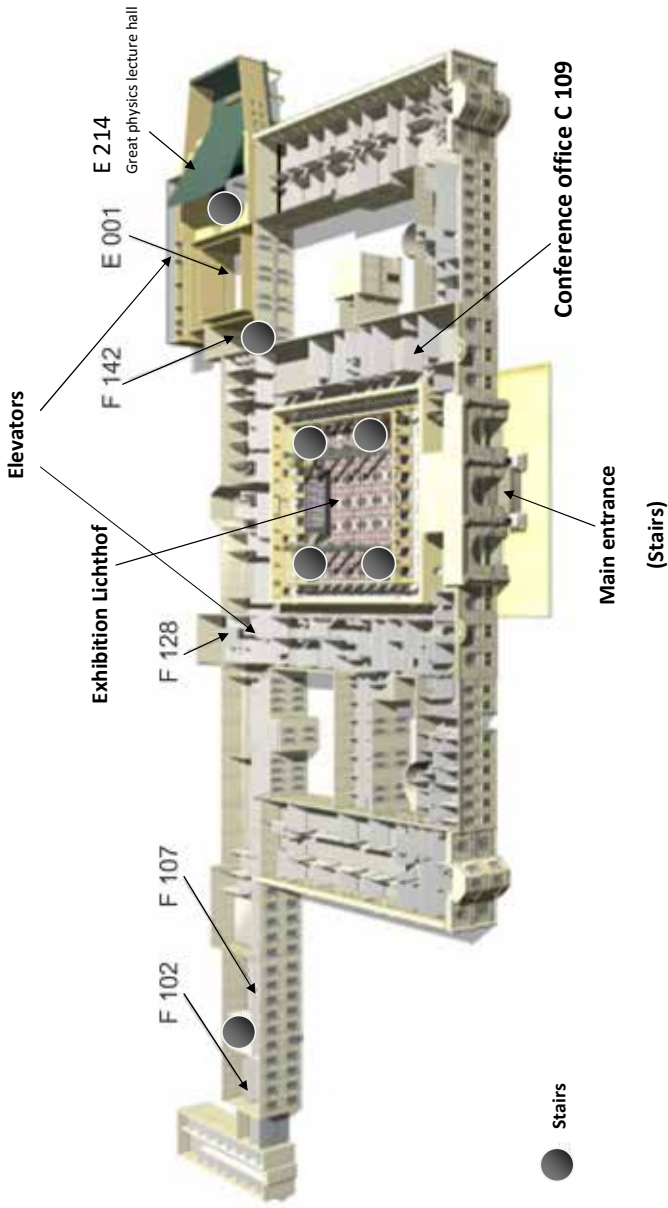
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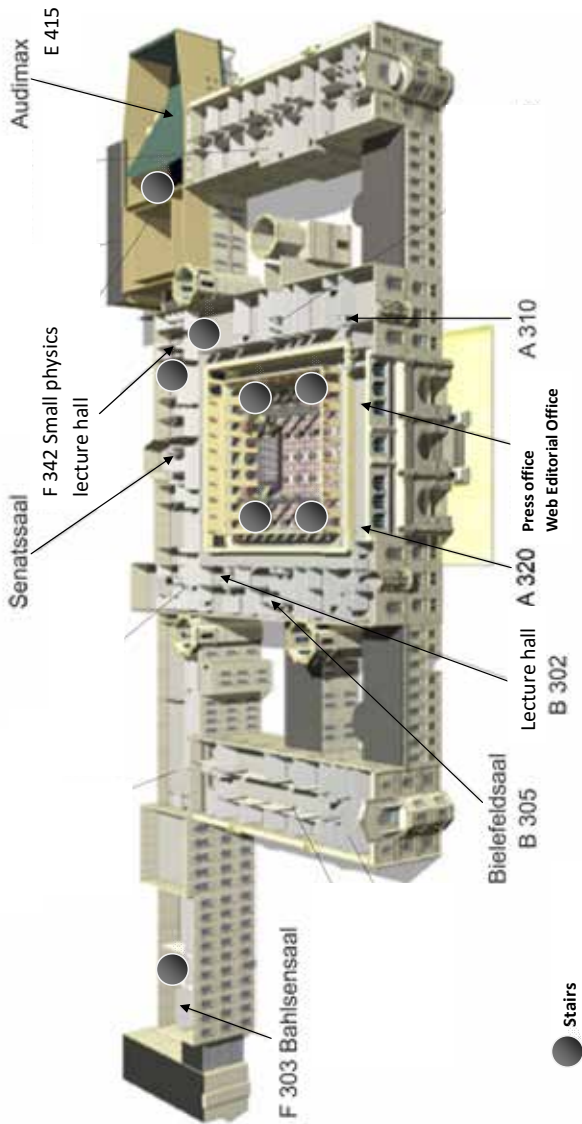
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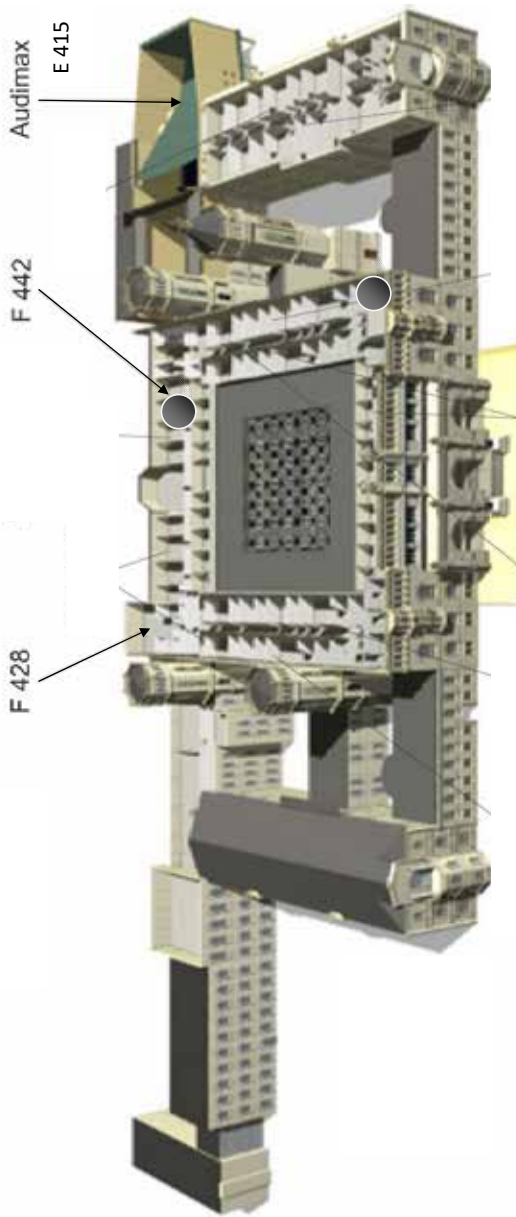
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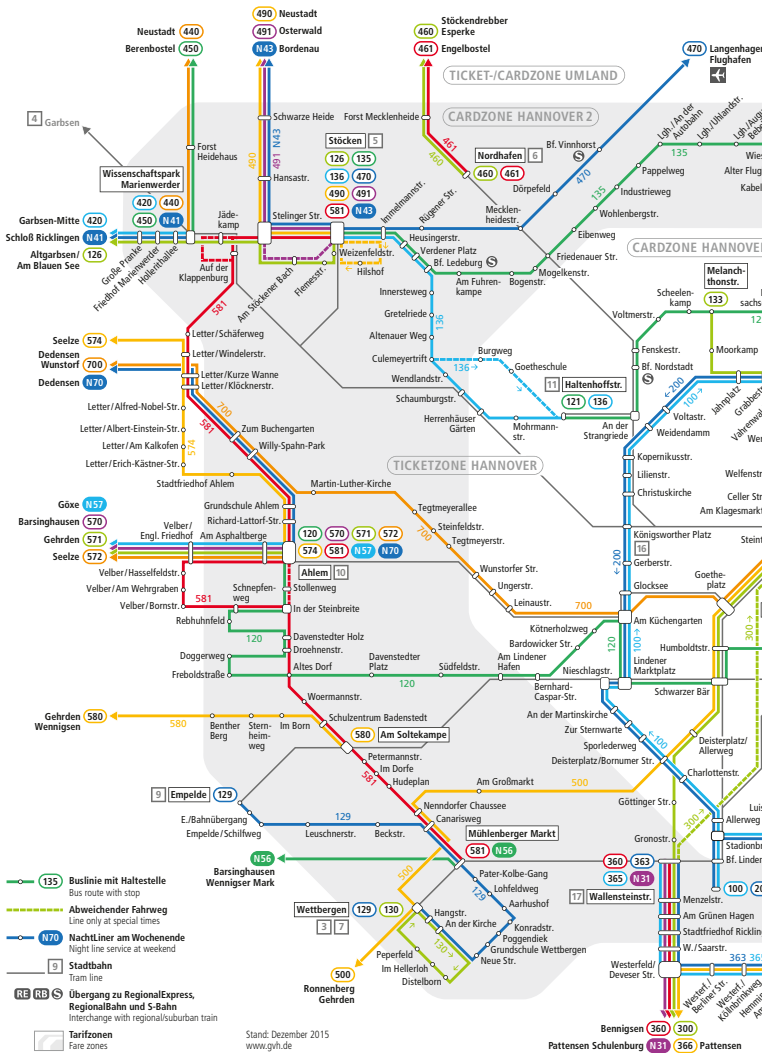
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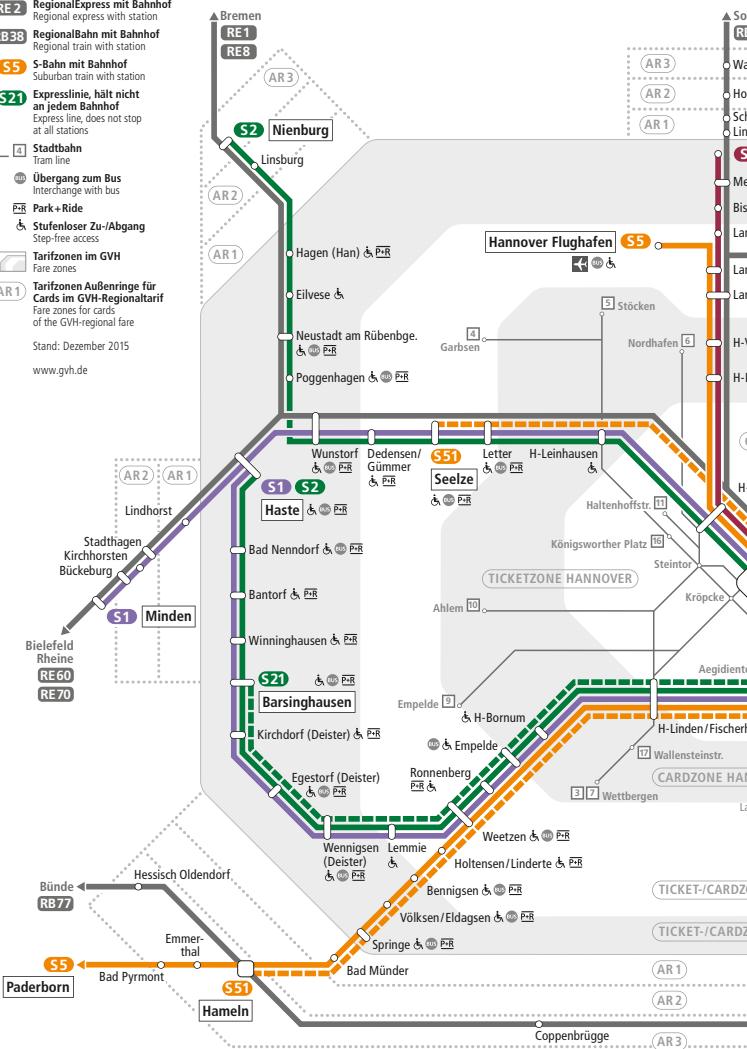


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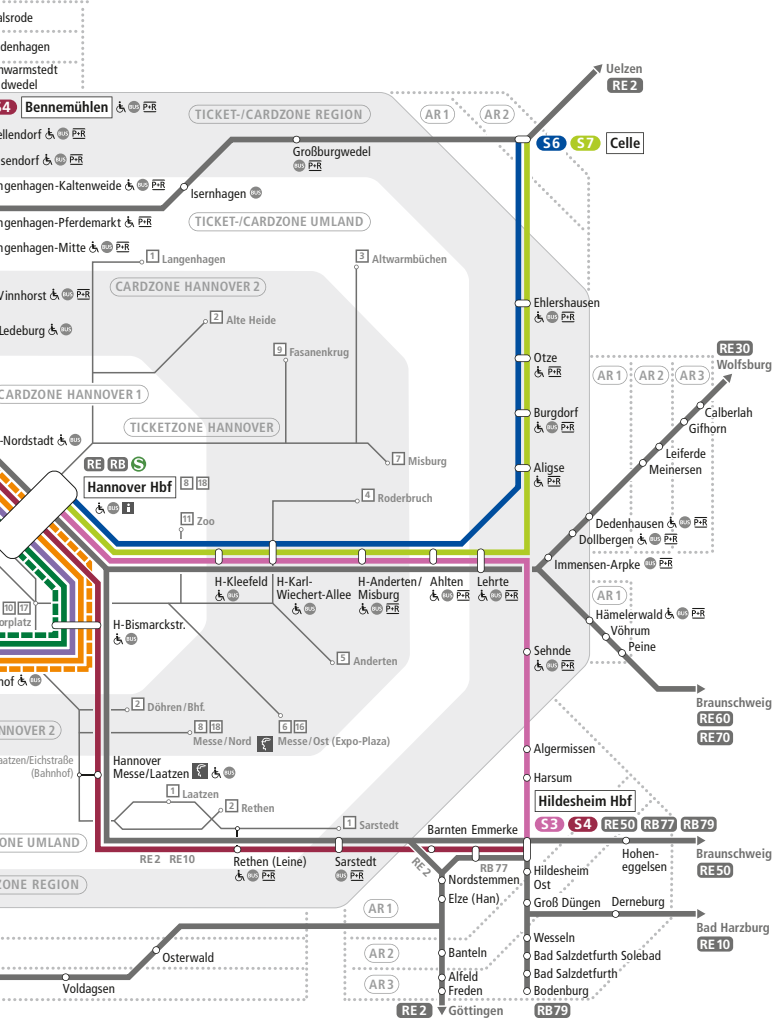









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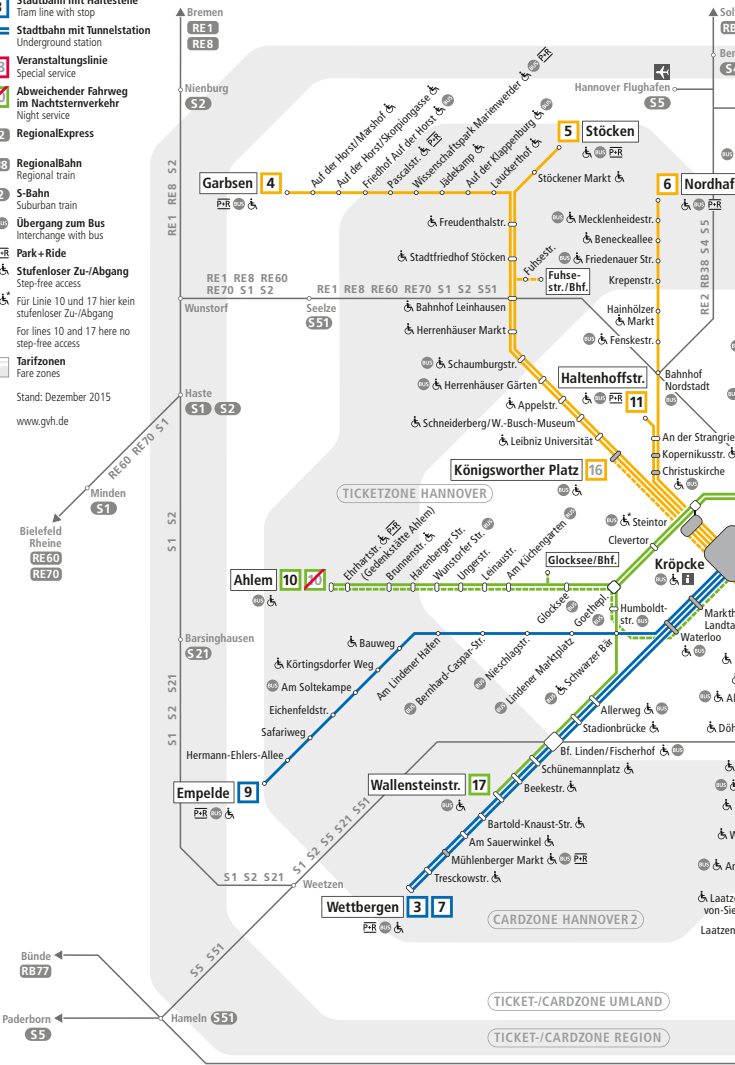
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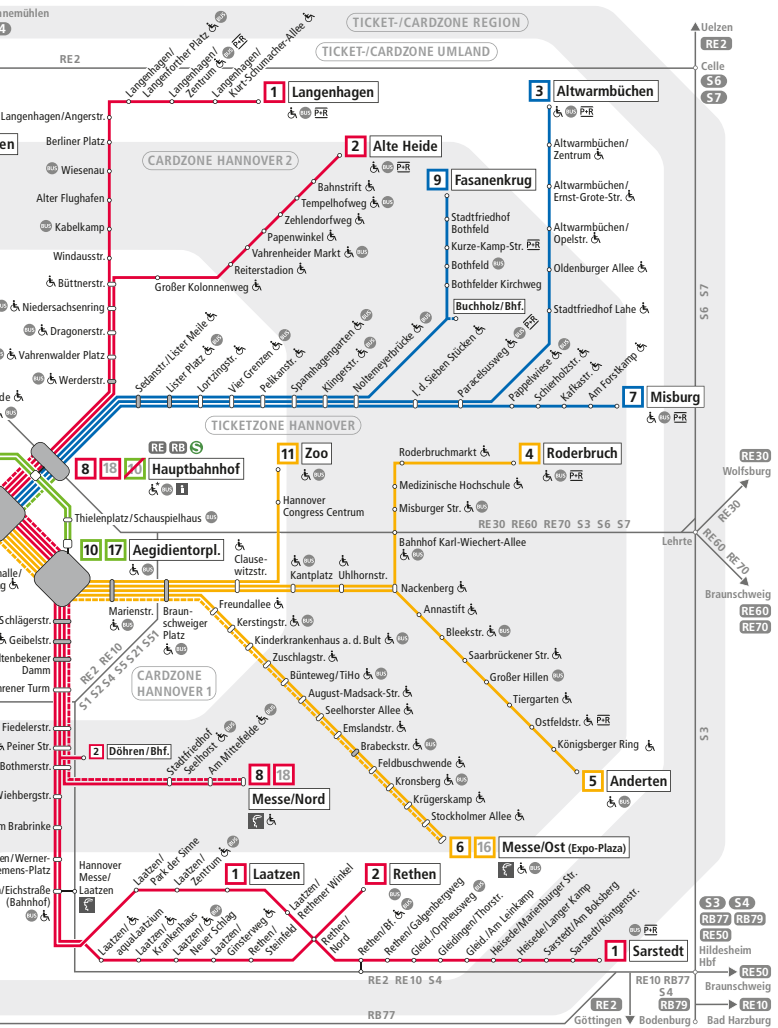
z. Hd. Dr. Hans Behringer

(hans.behringer@cui.uni-hamburg.de)

The Hamburg Centre for Ultrafast Imaging
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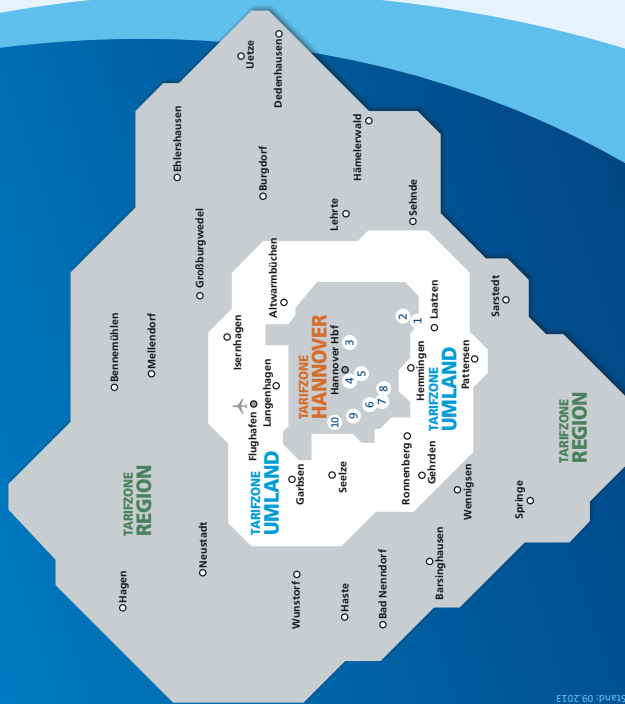
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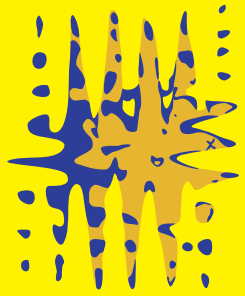
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