

June 2011

## Helmholtz Institute Jena - NEWS

With this newsletter the Helmholtz Institute Jena (HI-Jena) would like to inform its members and collaborators about the latest activities. Here we will announce current seminars, talks or other events within the HI-Jena and we also will present general organisational information. You will receive this newsletter every month by E-Mail or you can find it on the homepage of the HI-Jena: [www.hi-jena.de](http://www.hi-jena.de).

### Research News

#### **Accelerator technology of the future – The LIGHT project**

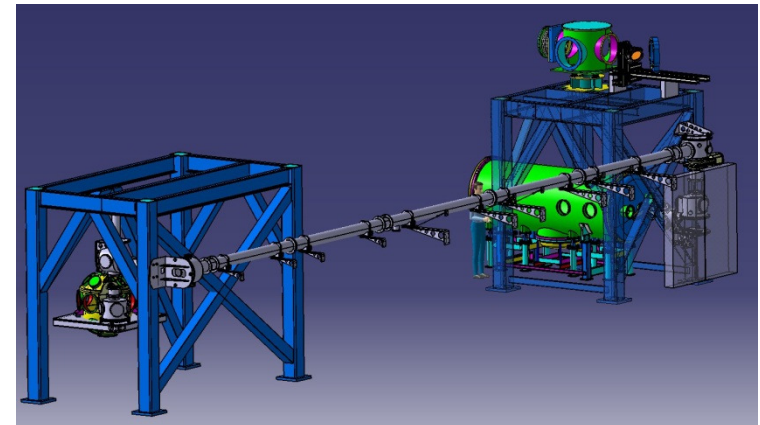
In a successful test conducted at the GSI Helmholtzzentrum, scientists used the PHELIX high-performance laser to accelerate hydrogen ions to about ten percent of the speed of light. This makes GSI one of the few research centers worldwide that can accelerate particles not only with conventional electromagnetic devices, but also with lasers. Future developments planned in cooperation with HIJ, TUD and the new Helmholtz Center Dresden Rossendorf will lead to the opportunity to use this unique combination to post accelerate and use laser produced ion bunches by conventional accelerator structures.

Press release:

<http://www.gsi.de/portrait/presse/Pressemeldungen/20052011.html>

#### Further Information

On the LIGHT project <https://www.gsi.de/documents/DOC-2010-Nov-36-1.pdf>



CAD view of the new facility: The in-vacuum laser-pulse compressor and output diagnostics table is shown on the right side and the beamline to the existing ion beam target chamber on the left side

### **Save the date: Common Meeting of the HI-Jena scheduled for July, 21st**

All members of the HI-Jena are cordially invited to the first common meeting of the HI-Jena on July, the 21st at Hörsaal 2, Helmholtzweg 5 in Jena. The meeting will be held from 2 pm to 7 pm and after that all participants are invited for an informal get-together on the roof of the building Max-Wien-Platz 1.

All research groups is invited to participate with one or two talks to present their works. A preliminary agenda will be send out within the next week.

## HI-Jena pushing the limits at race events

Recently members of the HI-Jena took part in two race events in Jena, namely the **6. Jenaer Teamlauf** and the **1. Jenaer Firmenlauf**. The entry fee for both races included a donation to charitable institutions in Jena.

At both events a team from HI-Jena achieved either the first or the second place in the ranking. Congratulations!



## Recent Publications

### **Controlling the Spacing of Attosecond Pulse Trains from Relativistic Surface Plasmas**

M. Behmke, D. an der Brügge, C. Rödel, M. Cerchez, D. Hemmers, M. Heyer, O. Jäckel, M. Kübel, G. G. Paulus, G. Pretzler, A. Pukhov, M. Toncian, T. Toncian, and O. Willi

Phys. Rev. Lett. **106** 185002 (2011)

doi: [10.1103/PhysRevLett.106.185002](https://doi.org/10.1103/PhysRevLett.106.185002)

### **Determination of high-purity polarization state of X-rays**

B. Marx, I. Uschmann, S. Höfer, R. Löttsch, O. Wehrhan, E. Förster, M. Kaluza, T. Stöhlker, H. Gies, C. Detlefs, T. Roth, J. Härtwig and G.G. Paulus

Optics Communications **284** 915 (2011)

doi: [10.1016/j.optcom.2010.10.054](https://doi.org/10.1016/j.optcom.2010.10.054)

### **Precision studies of fundamental atomic structure with heaviest few-electron ions**

A. Gumberidze, Th. Stöhlker, D. Banaś, H. Beyer, C. Brandau, H. Bräuning, S. Geyer, S. Hagmann, S. Hess, P. Indelicato, P. Jagodziński, C.

Kozhuharov, A. Kumar, D. Liesen, R. Martin, R. Reuschl, S. Salem, A. Simon, U. Spillmann, M. Trassinelli, S. Trotsenko, G. Weber, G. and D. Winters

Hyperfine Interactions (2011)

doi: [10.1007/s10751-011-0301-0](https://doi.org/10.1007/s10751-011-0301-0)

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## Seminars and Meetings at the HI-Jena

(For more information including the abstracts of the talks see the HI-Jena webpage).

### Atomic Physics Online Seminar at GSI

It takes place every Wednesday at 11:00 a.m at GSI. The videotransmission of this seminar is shown in the **seminar room of the HI-Jena (room number 214)**. This seminar allows a regular scientific exchange even though the partner institutes are widespread.

### HI-Jena PhD/Postdoc – Meeting

All Postdocs & students of the HI-Jena have the chance to meet every two weeks in the **seminar room of the HI-Jena (room number 214)** to exchange ideas about their respective research fields.

**The next meeting takes place in September.**

### HI-Jena Member – Meeting

All members of the HI-Jena meet at a jour fixe every two weeks at the **seminar room of the HI-Jena (room number 214)**. A scientific presentation will be given by one of the members which should be followed by fruitful discussion to assure a regular exchange.

**The next meeting takes place on the July, the 7th, 4 pm.**

### Contact at HI-Jena:

Secretary:

Tel.: 03641-947600

E-Mail: [s.steudel@gsi.de](mailto:s.steudel@gsi.de)

Admin. Assistent:

Tel.: 03641-947603

E-Mail: [b.kirchner@gsi.de](mailto:b.kirchner@gsi.de)

Helmholtz Institute Jena, Helmholtzweg 4, 07743 Jena; [www.hi-jena.de](http://www.hi-jena.de)

