DESY inFORM

02/2007

Summit Meeting at DESY

From May 30 to June 3, an International Linear Collider Workshop will be held at DESY. For five days, approximately 700 scientists will discuss physics at the ILC, detectors and the machine. Information: *http://lcws07.desy.de/*

XFEL Users' Meeting

The first European XFEL users' meeting took place at DESY from January 24 to 25. Its main focus was on the scientific perspectives of the XFEL project. We will report about it in more detail in the next issue of DESY inForm.

Equal Opportunities

Equal Opportunities would like to invite to a meeting on February 8, 10 h, room 7a. Women dealing with recruitment discuss their experiences with the new equal treatment law.

Planets and Comets

The diversity of solar satellites and their cosmic interaction will be presented by Dr. Axel Lindner (DESY) in a lecture on February 28, 19 h. in the DESY auditorium. This lecture (in German) is particularly meant for the general public.

Director's Corner

With the very successful operation of FLASH and DORIS III for users, and the projects PETRA III and XFEL on the right track, photon science and related accelerator developments at DESY have most exciting perspectives. Experiments at free-electron lasers are conceptually and technically very different from what we are doing today at storage ring facilities. In order to make best use of FLASH and prepare for effective use of the European XFEL for novel types of experiments, DESY together with the Max-Planck Society and the University of Hamburg is setting up a ***"Center for Free-Electron Laser Studies", CFEL****.*
The core of the center will include four experimental groups and one theory group complemented by three MPG Independent Junior Research Groups. The heads of the core groups will hold a joint appointment with the University of Hamburg. We expect to welcome the first two of them at DESY in 2007. Moreover, the FEL activities of existing Max-Planck and University of Hamburg institutes will be coordinated by two Advanced Study Groups. CFEL will collaborate closely with HASYLAB and the DESY accelerator and particle physics departments.

(Continued overleaf)

Stealth Particles

New experiment searching for axion-like particles

The standard model of particle physics groans and moans—additional building blocks are missing that would give answers to unresolved phenomena. But so far they remain invisible in experiments. The Higgs boson is the most prominent missing piece of the puzzle, but not the only one. The so-called axions and axion-like particles could outrank it. At DESY, the new experiment ALPS (for Axion-Like Particle Search) intends to discover the unknown particles. The problem: these particles can't be detected in the high energy collisions at HERA and the LHC. They are not traceable, presumably because they are too light-weight and hardly react with matter. A new experimental approach has now become possible due to the results of the PVLAS research group in Italy.
PVLAS discovered that some photons disappear when a laser beam is directed through a magnetic field. Their interpretation: the missing photons are transformed into axion-like particles.
The ALPS experiment wants to regenerate the disappeared photons. At the beginning, a laser beam crosses the magnetic field of a dipole. A wall in its center stops the laser light. In case axion-like particles were produced in the first half of the magnet, they traverse the wall—solid matter is no barrier for them. The magnetic field that follows transforms them into photons. Experimenters do not expect a large harvest: only one photon in a billion will transform, and from these only one axion-like particle in a billion transforms back into light.
Approved by the Directorate only in January, ALPS is planning to take first data this summer. Other institutes are now in a hurry: France, Italy, Switzerland and the United States are also setting up similar experiments. In case the axion-like particles are verified, the restrictions of the standard model would be lifted. *(she)*

In hall 55 a HERA dipole magnet is already fully operable. Laser (Laser Zentrum Hannover) and detector (Hamburger Sternwarte, University of Hamburg) will soon complete ALPS. *Information: http://alps.desy.de/*

HASYLAB Users' Meeting

Scientific community shows great interest

The annual HASYLAB Users' Meeting, followed by a poster session has become an institution. Last Friday, about 340 scientists got information on the status of the running photon sources (FLASH, DORIS III) and current projects (PETRA III, XFEL). The six satellite meetings dealing with specific topics that had started a day earlier were well attended. The users' meeting serves as a forum for scientific results and also for the exchange of experiences and new experimental approaches. Simultaneously with the workshop, HASYLAB presents its new website with a more user-friendly structure. *(she)*

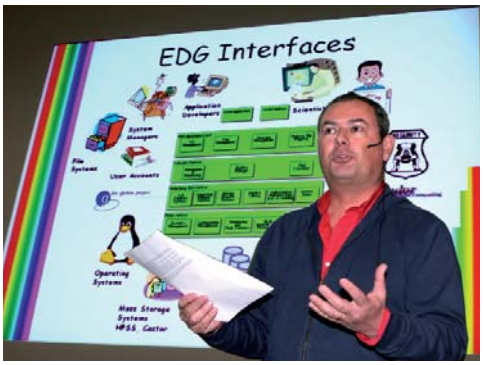
website: http://hasylab.desy.de

DESY INFORM

dCache Developers Ready for LHC Data Taking

Software workshop at DESY promises smooth data storage

Analyzing the vast amounts of data produced by CERN's LHC starting at the end of this year will be a major challenge for all scientists involved. Storing all the data so nothing gets lost will be just as difficult. The Grid distributes the computing power across the globe, and 300 megabytes of data per second (the equivalent of one CD every two seconds) will pour into the Tier-1 centers. These have to store the data permanently on tape for as long as the LHC exists and are responsible for forwarding parts of the data to the storage systems at the Tier-2 centers. A storage software called dCache, developed at DESY in collaboration with Fermilab, will play a major role in ensuring that all data is written both to disk and to tape. It provides the various transfer protocols, manages the storage on disk and makes sure that the data is transferred to the local tape system if available.



Jamie Shiers, coordinator of the Worldwide LHC Computing Grid, during the dCache workshop

Exactly 72 software experts gathered at the second dCache workshop, held from January 18 to 19 at DESY. Jamie Shiers from CERN, coordinator of the Worlwide LHC Computing Grid, said: "There has been a major improvement since the first workshop in 2005. The second dCache workshop attracted more than twice as many participants and they've made great progress. However, we all have to focus on the critical issues to make sure we're running smoothly by end 2007!" Before dCache and its "sister systems", there simply was no storage software. "We needed to develop something that would be able to cope with the data flood from the LHC," said Patrick Fuhrmann, project leader. "Now we've got about seven people working on it full time." The highly scalable software is used by seven Tier-1 and many more Tier-2 centers. In total there are 150 sites that can choose which of the three different storage systems they want to use, and dCache proves to be very popular. The developers want to make dCache available for all sorts of different environments—from a work laptop to Petabyte computing farms. (baw)

Director's Corner

Hamburg will finance a new building on the DESY site for up to 300 scientists, engineers and technical and administrative support staff. CFEL will make use of FLASH and XFEL and of facilities at any other location in Europe and the world that provide the most appropriate photon beams for the science pursued. It will further contribute to the necessary training and education to ensure dissemination of the knowledge generated to the academic and technological communities. Alltogether, CFEL is another boost for photon science with special emphasis on scientific applications of free-electron lasers.

Sincerely yours,
Jochen Schneider

Data Security Problems with 'Google Desktop'

D4 cleans up the desktop

It sounds promising: just enter a catchword in the search box and a search engine immediately finds the document you were looking for.
Even when it has been saved on a switched-off laptop and you are working at a desktop PC. Google offers this service as an advanced feature of 'Google Desktop' and some DESY staff have already installed it—unfortunately.

"We have strong worries concerning data security," says Carsten Porthun from D4, responsible for IT and data security. In fact, 'Google Desktop' transmits the data to an American Google server and accesses them from it. "During the set-up of the advanced feature there is an explicit warning that this will happen. You can also find it in the Google data security statement," Porthun explains.

"It states the possibility that saved data could be transmitted to a third party."
In case this advanced feature has been activated on DESY computers, it might be possible that confidential data are stored on external servers: personnel data, engineering drawings or cost listings for future projects may fall into wrong hands. "Unfortunately here at DESY we don't have a classification into "confidential" or "public" documents yet. We have to work on this," says Porthun. For the moment, D4 asks DESY users to deactivate the advanced feature "search across computers". (baw)

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