



Mars 2004

Första numret av Nya Månadsbladet

I förra numret av Månadsbladet utlovade Elisabet Oppenheimer som varit redaktör för Månadsbladet den senaste tiden att bladet likt galten Särimner skulle återuppstå i ny skepnad och här kommer första numret av *Nya Månadsbladet*. Elisabet förberedde förändringen genom att utnyttja datorteknik mer och mer och i den nya versionen utnyttjas datortekniken fullt ut och vi avser att från och med nästa nummer distribuera vårt informationsblad elektroniskt.

Nya Månadsbladet får ett mera flexibelt format än den tidigare utgåvan och antalet sidor kommer att variera. Sannolikt kommer bladet ibland att bestå av en enda sida med mycket kort information om händelser som ägt rum och annonsering av vad som kommer att ske den närmaste tiden. Vi kommer dock att som förut skriva om förändringar i organisation och verksamhet och naturligtvis kommer vi att sträva efter att emellanåt ta in artiklar som har vetenskapligt och tekniskt innehåll med anknytning till MSL och laboratoriets verksamhet. Vi inbjuder hugade författare att skicka oss manuskript! Vi kommer att dra ned antalet nummer till tio om året och göra uppehåll i utgivandet under juli och augusti.

As was the case in Månadsbladet we will in *Nya Månadsbladet* use both Swedish and English. The main language will be Swedish but now and then articles and information will be written in English. We ask everybody, who wants to get *Nya Månadsbladet* to send her/his e-mail address to www@msi.se.

A Super-Massive Black Hole in the Center of the the Milky Way 2003 Manne Siegbahn Memorial Lecture

New instrument development and long periods of observation of orbits of stars in the central stellar cluster of our galaxy have given significant evidence that the compact radio source Sagittarius A* is a super-massive black hole with a mass of 3-4 million solar masses. Professor Andreas Eckart from I. Physikalisches Institut, Universität zu Köln, described these observations, which have been made by an international team of astronomers over a 10 year period, to an enthusiastic audience in the crowded Lecture Hall at the Manne Siegbahn laboratory in the afternoon 12 February 2004. The successful research has been possible by using adaptive optics techniques at the New Technology Telescope (NTT) at the ESO La Silla Observatory and the Very Large Telescope (VLT) at the ESO Paranal Observatory in Chile. The observations exclude with high confidence that the central dark mass consists of a cluster of unusual stars or elementary particles and leave little doubt of the presence of a super-massive black hole at the centre of the galaxy in which we live.

Andreas Eckart gave the twelfth Manne Siegbahn Lecture in the series, which was started in 1993 with a lecture by Professor Gerald Gabrielse^{*)} from MIT, who talked about trapped antiprotons. ⇨⇨⇨



The Manne Siegbahn lecturer, Andreas Eckart, chatting with the chairman of the board of MSL, Kerstin Fredga, during the subsequent dinner.

Photography: E. Oppenheimer



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At the traditional dinner party after the lecture with about 50 invited guests, mainly from the Stockholm physics community, professor Eckart was awarded the Manne Siegbahn Medal. The day after the Stockholm lecture, Professor Eckart gave a colloquium on the same subject at the Ångström Laboratory in Uppsala. As in Stockholm, the talk was very much appreciated.

The Manne Siegbahn Memorial lectures are financed by the Royal Academy of Sciences through its Nobel Committee of Physics.

*) Note the advertisement on the last page about MSL seminars. Gerald Gabrielse will give a seminar 10 March 2004 about production of cold antihydrogen.



The presidents of Stockholm University and the Royal Institute of Technology Kåre Bremer and Anders Flodström took the opportunity to discuss common matter. The Director of AlbaNova Ulf Wahlgren listens attentively.

Photography: E. Oppenheimer

Changes of MSL and experimental activities at CRYRING in the future

A future programme in accelerator physics at MSL

As was described in Swedish in the February edition of Månadsbladet, the MSL board has decided about a strategy for the future. As the laboratory no longer is a national research facility the board proposed that MSL shall continue activities with a reduced staff but still as a separate unit within Stockholm University. From 2005 the laboratory should be a part of the Faculty of Natural Sciences. The programme for the scientific and technical activities of the unit should be *accelerator physics*.

In the period 2004-2007 the highest priority will be given to the design and construction of the DESIREE facility, which is intended to be commissioned in 2007 at AlbaNova. The proposal that the CRYRING synchrotron around 2010 would be moved to GSI in Darmstadt, Germany, to be a part of the FLAIR facility for experiments with low energy antiprotons shall be investigated. This possibility might extend a period of running a limited experimental programme at CRYRING. Other projects under consideration are e.g. related to existing and new EBIS/EBIT facilities. A participation in some CERN projects is also discussed. An important component of the accelerator physics programme should be to actively participate in new national or international projects of interest for the scientific community in the Stockholm-Mälardalen region.

A reduced CRYRING experimental programme

The change of the laboratory with a reduction of staff and from being a national research facility to a unit within the university's Faculty for Natural Sciences has the consequence that the possibilities to serve external users of CRYRING are reduced. The present beam schedule, which covers the first quarter of 2004, is the last one based on priorities set by CPAC. The laboratory has the intention to run a limited experimental programme at CRYRING in 2004 and possibly also a part of 2005. As indicated above the proposal to use the CRYRING synchrotron in the FLAIR project might prolong the period for experiments at CRYRING in Stockholm some years.

The future scheduling of CRYRING experiments

The laboratory has in consultation with the research leaders of the Atomic and Molecular Physics groups in the Department of Physics at Stockholm University decided that experiments at CRYRING in the future should be coordinated in the following way. Users outside the university should normally contact the Stockholm research leaders, who are expected to coordinate proposals and forward requests of experimental time. The scheduling of experiments will be done as before by the experiment coordinator at MSL, who will discuss details with the Stockholm research leaders. The new procedure will be described in more detail in e-mail contacts with the team leaders of the CRYRING users. Teams outside Stockholm University are welcome to contact the MSL management (H. Danared, experiment coordinator and Ö. Skeppstedt, director) and the research leaders at Stockholm University to discuss the details of the future scheduling procedure.



Tårtkalas för Anders Källberg



Medelåldern för de anställda på MSL ökade kraftigt den 25 februari när Anders Källberg fyllde 50 år. Han valde konstigt nog att inte tillbringa födelsedagen på laboratoriet så ett tårtkalas värdigt en gastronom utbröt vid onsdagskaffet först en vecka senare. Föreståndaren höll tal till Anders och noterade bl a att han är ett utmärkt exempel på att fd kärnfysiker är trevliga och bra personer.

Foto: P Carlé

Ansökan om EU-medel till nya tillämpningar vid DESIREE

En ansökan har lämnats till EU:s 6:e ramprogram **Research Infrastructure Action** från SU (Fysikum och MSL) och fyra andra europeiska laboratorier: Aarhus universitet, Queen's University, Belfast, Gray Cancer Institute, London och CIRIL-Ganil, Caën. Henrik Cederquist, Fysikum är koordinator. Ansökan, **Installations for Biomolecular Damage Experiments at DESIREE (IBDEatDESIREE)**, är på 325 000 € och avser utrustning och utveckling av ett forskningsprogram för studier av fragmentering av biomolekyler. Utrustningen är en MALDI-jonkälla för lågladdade biomolekyljoner till en av injektorerna samt en fragmentspektrometer som ska placeras efter den gemensamma raksträckan i DESIREE.



Manne Siegbahn

Experimentverksamheten

Week 10: M. Fogle. Field ionization of Rydberg ions produced by recombination.

Week 12: C.L. Cocke. Investigation of two-center electronic transitions with an internal gas target in a heavy-ion storage ring.

Week 13: R. Thomas. The effect of bonding character on the dissociative recombination of small systems.

Week 14: W.J. van der Zande. Dissociative recombination of atmospherically relevant ions.

Personaltytt

Linnea Gräll vikarierar för Britt-Inger Lindqvist. Vikariatet är på halvtid i sex månader. Linnea kommer att arbeta måndag-onsdag jämna veckor och måndag-tisdag udda veckor.



Gäster på MSL

Vecka 13

Randy Vane, Mark Bannister och Eric Bahati från Oak Ridge.

Vecka 14

Annemieke Petrignani från AMOLF,

Wim van der Zande, Stefan Rosen och Mirjam van Vroonhoven från the Catholic University of Nijmegen

Phil Cosby från SRI.

Seminarier

Wednesday, 10 of March 2004 at 15:00

First Laser-Controlled Production of Cold Antihydrogen

Prof Gerhard Gabrielse

Department of Physics,
Harvard University
Cambridge, U S A

☎(8)

Wednesday, 17 of March 2004 at 15:00

Inorganic scintillators – nonproportional response and properties at low temperatures.

Docent Wlodzimierz Klamra

Section of Particle Physics
Department of Physics
Royal Institute of Technology
Stockholm

☎(8)

Wednesday, 24 of March 2004 at 15:00

Fast ion-atom and ion-molecule collisions in the CRYRING internal Gas-Jet Target

Doc Henning Schmidt

Fysikum
Stockholm University

☎(8)

Wednesday, 31 of March 2004 at 15:00

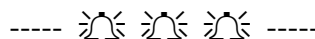
Vacuum peculiarities for DESIREE

Lars Bagge

Research Scientist at CRYRING
Manne Siegbahn Laboratory

Sammanträden

MSLs styrelse sammanträder 23 mars kl 13:00



ST-ATF och SEKO flyttar sina kanslier till C-huset. Anledningen är att de gamla lokalerna behövs för en institutionssammanslagning.