

WAO2003 Abstracts

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WAO2003 Abstract

Abstract No.: **001**

Submitted by: **JING, Lan**

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Institute: **Institute of Modern Physics, Chinese Academy of Sciences**

Author(s): **Qiao Weimin, Jing Lan, Ma Yunhai**

Title: **Design of Central Control Room of HIRFL-CSR**

Preference: **Oral**

Topic: **Central Control Room of HIRFL-CSR**

Keyword 1: **Central Contro**

Keyword 2: **Function Partition**

Keyword 3: **Operation and Display**

Abstract: **We have set up our new Central Control Room for our HIRFL-CSR Facility. The consideration about the layout and operation is discussed in this paper. It include following sections:**

- 1. Function Partitions**
- 2. Operation and Display**
- 3. Ergonomics Consideration**

Session: **11A1**

Paper No.: **11A1-1**

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WAO2003 Abstract

Abstract No.: **002**

Submitted by: **NOONE, Tom** t.noone@rl.ac.uk

Institute: **CLRC Rutherford Appleton Laboratory**

Author(s): **Tom Noone**

Title: **Radiation Safety pertaining to active component replacement.**

Preference: **Oral**

Topic: **Radiation safety issues associated with operating and maintaining intense beam accelerators**

Keyword 1: **Radiation safety**

Keyword 2: **Active component**

Keyword 3: **Component replacement**

Abstract: **One of the issues that face all high energy beam accelerators is that of active component replacement. This can arise through failure of components, the need to carry out maintenance or upgrading of systems to increase output efficiency. During the year 2001/2 RAL undertook a major upgrade on the most active area of the ISIS accelerator ring, "straight 1". This section of the ISIS accelerator contains a collector system for containing lost beam during injection and the beam extraction components. The case for carrying out this work was driven by several aspects of machine operation: component failure, lack of purpose built shielding, high downstream activity levels, original design restrictions causing beam clipping and the need for re-designing several components to meet the needs of future intensity upgrades.**

Session: **11P1**

Paper No.: **11P1-3**

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WAO2003 Abstract

Abstract No.: **003**

Submitted by: **AGEMATSU, Takashi**

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Institute: **Japan Atomic Energy Research Institute**

Author(s): **T. Agematsu, K. Arakawa, S. Okumura, Y. Nakamura and S. Tajima**

Title: **An Operator Assistance System for Beam Adjustment of a JAERI AVF Cyclotron**

Preference: **Poster**

Topic: **Software or Tools**

Keyword 1: **Cyclotron**

Keyword 2: **Visual**

Keyword 3: **Assistance**

Abstract: **Cyclotron start-up operations require dozens of adjustable parameters to be tuned to maximize extracted beam current. Experienced operators perform this process through trial and error using their experience and intuition. However, the process is difficult for inexperienced operators because operator need to adjust parameters using little information such as measured beam data, alarm, status of components, and so on. We have developed a computer-based visual assistance system for JAERI AVF cyclotron. The system provides a CRT display: the cyclotron beam trajectories, feasible setting regions, search traces and the beam envelopes for external beam transport designed to optimize beam parameter adjustment. The evaluation experiment for the system was carried out and the operation time to reach required beam conditions of the injection region of the cyclotron was reduced by approximately 65%. Also the system is very useful to study the problems on the beam transport such as beam trajectory, envelope, beam profile, spot size and so on.**

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WAO2003 Abstract

Abstract No.: **004**

Submitted by: **KRAUSE, Shannon**

krause@mit.edu

Institute: **MIT Bates Linear Accelerator Center**

Author(s): **Shannon Krause, MIT Bates Linear Accelerator Center**

Title: **Automation of Accelerator Operations**

Preference: **Oral**

Topic: **Automation**

Keyword 1: **Software**

Keyword 2: **Bates**

Keyword 3: **Jefferson**

Abstract: **This presentation will focus on the Automation of tasks performed by Accelerator Operations. This includes the types, requirements, and process of automation as well as the pros and cons. Various examples of automation will be presented from both the Bates and Jefferson Laboratories. The talk will conclude with a discussion of the Bates Automated Ring Fill software which will completely automate the standard beam delivery process for both Operations and the Experimenters.**

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WAO2003 Abstract

Abstract No.: 005

Submitted by: ITANO, Akifumi

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Institute: Hyogo Ion Beam Medical Center

Author(s): Akifumi ITANO, Takashi AKAGI, Akio HIGASHI, HIBMC, Syuuzo FUKUSHIMA, Atsushi FUJITA, Mitsubishi Electric Corp., Yasuo HONDA, Hidenori ISA, Kazuto NISHIKIGOURI, Accelerator Engineering Corp.

Title: Operation of Medical Accelerator PATRO at Hyogo Ion Beam Medical Center

Preference: Poster

Topic: Medical Accelerator

Keyword 1: hadrontherapy

Keyword 2: commissioning

Keyword 3: operation and maintenance

Abstract: PATRO (Particle Accelerator for Therapy, Radiology and Oncology) is a medical accelerator facility for hadrontherapy (Particle therapy of cancer) at Hyogo Ion Beam Medical Center (HIBMC). It consists of two 10 GHz ECR ion sources, 1 MeV/u RFQ linac, 5 MeV/u Alvarez linac, synchrotron, high-energy beam transport system and patient irradiation system. Beam particles for therapy are proton (230 MeV) and carbon (320 MeV/u). We started the beam commissioning and the tuning of irradiation system in 2000. We performed the clinical trials (60 patients) with proton and carbon beams from May 2001 until July 2002. We operated the accelerator for about 11,000 hours since the beginning of the beam tuning until the end of the clinical trials and for about 5,000 hours during the clinical trials. No serious troubles happened during the clinical trials. The stability and the reproducibility of the beams were well proved.

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WAO2003 Abstract

Abstract No.: **006**

Cancelled

Submitted by:

Institute:

Author(s):

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session:

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WAO2003 Abstract

Abstract No.: **007**

Submitted by: **KARANTZOULIS, Emanuel**

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Institute: **Sincrotrone Trieste - ELETTRA**

Author(s): **Emanuel Karantzoulis**

Title: **Synchrotron light sources reliability**

Preference: **Oral**

Topic: **10P1**

Keyword 1: **light sources**

Keyword 2: **reliability**

Keyword 3:

Abstract: **Availability and reliability is a big issue of great importance for synchrotron light source with 600 - 6000 users per year for about 5000 hours of machine time for user experiments. Definitions are presented discussed and analysis of the reliabilities of some machines is shown. Conclusions are drawn as to what components contribute most to the down time and what is to be done.**

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WAO2003 Abstract

Abstract No.: **008**

Submitted by: **JONES, Rita**

RCJones@LBL.gov

Institute: **Advanced Light Source, Lawrence Berkeley National Laboratory**

Author(s): **Rita Jones, Advanced Light Source Procedure Center, Lawrence Berkeley National Laboratory, Berkeley, California**

Title: **Catching It Before It Breaks · · PM Program at the ALS**

Preference: **Poster**

Topic: **Maintenance**

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **The ALS Procedure Center creates the operational procedures for the facility. ALS staff can access the preventive maintenance (PM) procedures, checklists, and test schedules on the Procedure Center web site. On maintenance days, occurring every other week, these documents are used to carry out maintenance tasks on unique (one-of-a-kind) equipment and critical systems to prevent lost beam time. PM chores on a typical maintenance day will be presented, highlighting examples of procedures and checklists used on the different systems and the roles and responsibilities of ALS personnel.**

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WAO2003 Abstract

Abstract No.: **009**

Submitted by: **RICHARDSON, David** dbrichardson@lbl.gov

Institute: **Lawrence Berkeley National Laboratory**

Author(s): **Alan Biocca, David Richardson, LBNL**

Title: **Upgrading to an Online Operations Log & Message Board**

Preference: **Oral**

Topic: **Upgrading to an Online Operations Log & Message Board**

Keyword 1: **Online**

Keyword 2: **Operations**

Keyword 3: **Log**

Abstract: **The use of an online (electronic) Operations Log (in place of a hardcopy log) and the use of an online Message Board (for Operators and Controls Personnel) can improve communications considerably. This presentation is designed to review the advantages of these two tools. Designing an online Operations Log that is user-friendly and that meets an accelerator's legal and practical requirements is quite a challenge. Permanent storage of entries, irreversability, searchability, remote accessibility are among the important criteria for a successful online Operations Log. Creating an online Message Board for ideas, suggestions, and resources can also improve the interaction of an Operations Group. The software involved in developing both these tools is not especially complex, and the improvement in reliability and efficiency of operations is well worth the effort.**

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WAO2003 Abstract

Abstract No.: 010

Submitted by: IIMA, Masashi iima@nifs.ac.jp

Institute: NIFS, National Institute for Fusion Science

Author(s): M. Iima, H. Yonezu, H. Hayashi, S. Moriuchi, K. Yasui, T. Kondo, N. Suzuki, K. Ooba, A. Sekiguchi, K. Okada, I. Ohtake, Operator group, Device Operation group, LHD Experimental group

Title: Management and Operation method at LHD

Preference: Poster

Topic: Operation Large SC-coils

Keyword 1: Large Helical Device

Keyword 2: Plasma Experiment

Keyword 3: Cryostat

Abstract: Large Helical Device (LHD) is the largest super conducting plasma confinement device in the world. The plasma volume is 30m³, and the volume of the cryostat is 800m³. The operation period is one period in a year. It started the vacuum pumping of the cryostat and plasma vacuum vessel. The coil cooling down takes about 25 days. The experimental period is about 5 month, and One month for warm up of the coils. This presentation will introduce the management of LHD and our operation experiences in these five years.

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WAO2003 Abstract

Abstract No.: **011**

Submitted by: **ERIKSSON, Tommy**

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Institute: **CERN**

Author(s): **T. Eriksson**

Title: **Beam quality monitoring at the CERN Antiproton Decelerator (AD)**

Preference: **Oral**

Topic: **Tools**

Keyword 1: **AD**

Keyword 2: **Beam quality**

Keyword 3: **Antiproton**

Abstract: **The CERN Antiproton Decelerator (AD) has now reached a stable mode of operation, regularly delivering batches of 100 MeV/c antiprotons to the ATRAP, ATHENA and ASACUSA collaborations. Experience during the commissioning and initial physics runs revealed difficulties in achieving design goals and maintaining stable performance levels. This paper will deal with the specific difficulties in monitoring and improving beam quality in a slow cycling machine operating with low beam intensities of a few 10^7 circulating particles.**

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WAO2003 Abstract

Abstract No.: **012**

Submitted by: **OHSIMA, Takashi**

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Institute: **SPring-8**

Author(s): **T. Ohshima**

Title: **Trial lectures for accelerator operators in SPring-8**

Preference: **Oral**

Topic: **Training**

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **In case of SPring-8, accelerator operators are working in three shifts of eight hours. They are making the scheduled beam injection to storage ring, routine measurement of operation parameters such as COD, betatron tune, bunch current of stored beam and so on. They are keeping a watch on operational state every time. In case of something wrong, they will take measures to meet the situation. New comer of operator begin to work with an experienced one to learn sequence of beam injection, how to deal with Graphical User Interface and so on. In addition, we organize preliminary lectures on accelerator for operators. Topics done in the lectures are RF system, vacuum system, magnet system, monitors, beam diagnostics, accelerator and beamline control system etc. The contents of the lecture can be seen by web browser again and again. It is useful for operators to understand the SPring-8 facility and details of their work because some of them are not familiar to the accelerator field before being an operator of SPring-8.**

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WAO2003 Abstract

Abstract No.: **013**

Submitted by: **YAMASHITA, Akihiro**

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Institute: **SPring-8**

Author(s): **Akihiro Yamashita and Toru Ohata, SPring-8**

Title: **Using RDBMS for Accelerator Operation Assistance**

Preference:

Topic: **Tools**

Keyword 1: **Database**

Keyword 2: **Web**

Keyword 3: **Mail**

Abstract: **SPring-8 control system depends on a relational database management system (RDBMS) not only for parameter storing but also for logging data archiving, alarm data storing and shift scheduling. We introduce many tools which assists SPring-8 operations like logging data browsing, alarm data checking, shift schedule notification by mail and cellular phone messaging and etc. Those tools were built as clients of the RDBMS. The RDBMS supplied simple and consistent way to construct those tools.**

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WAO2003 Abstract

Abstract No.: **014**

Submitted by: **TAKAO, Masaru**

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Institute: **SPring-8**

Author(s): **Masaru Takao, SPring-8/JASRI**

Title: **Software Applications for SPring-8 Accelerator Operations**

Preference: **Oral**

Topic: **Tools**

Keyword 1: **GUI**

Keyword 2: **Synchrotron Radiation Facility**

Keyword 3:

Abstract: **Various software applications have been developed for SPring-8 accelerator operations. The effectiveness of these software tools is reported.**

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WAO2003 Abstract

Abstract No.: **015**

Submitted by: **FUKUI, Toru**

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Institute: **SPring-8/JASRI**

Author(s): **T. Fukui and M. Kodera, SPring-8**

Title: **A Video Monitoring System for SPring-8 Accelerator Tunnel**

Preference: **Oral**

Topic: **Video Monitoring**

Keyword 1: **Web**

Keyword 2: **Network**

Keyword 3:

Abstract: **We developed the video monitoring system using web camera for SPring-8 accelerator tunnel. It replaced old system to consist of video cameras and video switchers. The old one was not convenient because a video display and location of cameras were fixed. The web camera is able to move any location if it could connect to a network. Also we can see pictures on any PC and workstation using the web browser.**

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WAO2003 Abstract

Abstract No.: 016

Submitted by: SCHEELER, Uwe

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Institute: GSI

Author(s): Dr. H. Eickhoff and U. Scheeler

Title: THERAPY OPERATION AT GSI

Preference: Poster

Topic: How we do Business/ Remote operation

Keyword 1: Carbon therapy

Keyword 2: Sharing operation

Keyword 3:

Abstract: GSI is the heavy ion research center in Germany operating three accelerators UNILAC (linac), SIS (synchrotron) and ESR (storage ring) on the fields of nuclear and atomic physics, plasma physics, material research and biophysics. Approximately a quarter of the 6000h of the SIS operation time per year is used for cancer treatment with carbon ions at 255 different energies employing a novel raster scan method. About 150 people suffering from tumors mostly in the head region have been treated since the end of 1997. The applied scanning technique allows the direct irradiation of any shaped tumors and prevents the healthy tissue from irradiation damage. This procedure is connected to special demands concerning beam energy, beam position, focusing and intensity. The annual beam time consists of 3 beam periods with a length of 27 days. Five days are reserved for commissioning and tuning, 22 days for patient treatment. The integral request of the daily beam time for therapy is only about 50%. The rest of the operation time is used mostly in block mode to carry out physics experiments. Based on the requirements by the therapy operation the special technical and organizational measures for a reliable operation as well as experiences of time sharing operation are discussed.

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WAO2003 Abstract

Abstract No.: **017**

Submitted by: **RICHTER, Simone**

S.Richter@gsi.de

Institute: **GSI**

Author(s): **S. Richter, W. Barth, B. Franczak, U.Scheeler, D. Wilms**

Title: **Improving Beam Set-Up using an Online Beam Optics Tool**

Preference:

Topic:

Keyword 1:

Abstract: **The GSI accelerator facility consists of the Universal Linear Accelerator (UNILAC), the heavy ion synchrotron SIS and the Experimental Storage Ring (ESR). Two UNILAC injectors serve diverse purposes. The High Current Injector (HSI) provides high intense but short pulses, whereas the High Charge State Injector (HLI) supplies long pulses with a high duty factor of up to 30 %. Before entering the Alvarez section of the UNILAC the ion beam from the HSI is stripped in a supersonic gas jet. Up to three different ion species can be accelerated for up to five experiments in a time-sharing mode. Frequent changes of beam energy and intensity during a single beam time period may result in time consuming set-up and tuning especially of the beam-transport-lines. To shorten these changeover times an online optics tool (MIRKO EXPERT) has been developed. This software tool is used in the high energy as well in the low and medium energy beam transport lines. Based on online emittance measurements at well defined locations the beam envelopes are calculated by reading the actual magnet settings. The visualization of the beam envelopes helps to better understand the beam dynamics. Results of fitting procedures can be directly sent to the magnet power supplies. The program is able to read profile grid measurements, so that an automated beam alignment is established and steering times are minimized. Experiences with this tool will be reported. At the UNILAC special focus is put on high current operation with short but intense beam pulses. Limitations such as missing nondestructive beam diagnostics, insufficient longitudinal beam matching, and influence of non realistic magnetic fields will be discussed. Special attention will be put on the limits due to high current effects with bunched beams.**

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WAO2003 Abstract

Abstract No.: 018

Submitted by: HAMAMOTO, Donna

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Institute: ALS / LBNL

Author(s): Hamamoto, Donna

Title: Poster Abstract: How we do business, Safety

Preference: Oral

Topic: How we do business

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: The Beamline Coordination group works in conjunction with the Acceleration Operations group to meet the varied needs of experimenters and ensures safety on the Advanced Light Source experimental floor. Accelerator Operators perform some of the duties of Beamline Coordinators on evening and owl shifts. The history of Beamline Coordinators is interesting because Accelerator Operators originally performed these duties and then a separate group was formed with Operators taking over on off shifts. Each experiment that runs at the ALS is reviewed by safety inspectors who cover mechanical, electrical, vacuum, radiation and Environmental Health and Safety issues. Beamline Coordinators arrange and assist in these inspections. Beamline Coordination and Accelerator Operations provide a wide variety of services to the ALS experimenters and Beamline Scientists. Some of the calls include: x requests for beamline keyenables x requests to valves, photon stops and personnel safety shutters x requests to trouble shoot problems with the opening of valves and shutters, x requests for chemicals and gases x questions on how to dispose of hazardous waste x questions about safety and facilities maintenance problems. The safety system has evolved over time to keep up with the constantly changing experimental floor.

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WAO2003 Abstract

Abstract No.: **019**

Submitted by: **GOTO, Kiminori**

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Institute: **Hiroshima Synchrotron Radiation Center, Hiroshima University**

Author(s): **Kiminori Goto**

Title: **Maintenance and improvement of the Synchrotron Radiation Source HiSOR**

Preference: **Poster**

Topic: **Maintenance**

Keyword 1: **Small lab.**

Keyword 2:

Keyword 3:

Abstract: **HiSOR is a synchrotron light source constructed at Hiroshima Synchrotron Radiation Center, Hiroshima University in FY1996. After some improvement, upgrade and tuning, the storage current of the HiSOR was up to 200mA in May 2000. As the stored current increased more and vacuum degree was better by repeating degassing operation, the beam instability problem at injection and at acceleration was severer. At present, changing the operation point at injection and updating the tracking pattern at acceleration from 150MeV to 700MeV is only a way to suppress the beam instability of the HiSOR. In near future, we will get approval from the radiation protection authority for the operation with 350mA. Then we are getting ready for upgrade of the HiSOR in order to operate stably.**

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WAO2003 Abstract

Abstract No.: **020**

Submitted by: **INGRASSIA, Peter**

ingrassia@bnl.gov

Institute: **BNL**

Author(s): **P. F. Ingrassia, Collider Accelerator Department, Accelerator Division**

Title: **Maintaining the Accelerator Safety Envelope**

Preference: **Oral**

Topic: **Radiation Safety**

Keyword 1: **Software**

Keyword 2: **BLAM**

Keyword 3: **Safety envelope**

Abstract: **The Accelerator Safety Envelope (ASE) defines boundaries for accelerator operation that may not be exceeded. Examples of parameters that are limited by the ASE include beam intensity and particle loss, the radiation safety access control system, the fire protection system, and control room staffing. This talk will focus on BLAM, the Beam Loss Accounting Manager, a novel approach that is used to monitor beam loss at RHIC, the Relativistic Heavy Ion Collider.**

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WAO2003 Abstract

Abstract No.: 021
Submitted by: NAKAMURA, Yoshiteru nakamura@taka.jaeri.go.jp
Institute: nakamura@taka.jaeri.go.jp
Author(s): Y. Nakamura, T. Nara, T. Agematsu, I. Ishibori, S. Kurashima, M. Fukuda, S. Okumura, K. Arakawa, N. Miyawaki, K. Yoshida, and S. Tajima
Title: Operation and Maintenance for JAERI AVF Cyclotron System
Preference: Oral
Topic: Flat-top acceleration system
Keyword 1: Operation
Keyword 2: Maintenance
Keyword 3: improvement

Abstract: Takasaki Ion Accelerators for Advanced Radiation Application (TIARA) facility at JAERI Takasaki was constructed to promote the various researches of wide field for materials science and biotechnology. The AVF cyclotron system, which is the one of four ion accelerators in TIARA, has been smoothly operated without any serious troubles since the first beam extraction in March 1991. The operation time for a year is about 3200 hours on an average through recent 8 years. In especially, the cyclotron system is needed the frequent alteration of operation condition according to many kinds of ion species required from the experimenters. On the other hand, because of the improvement of the beam quality, intensity and reliability, we have carried out continuously so far many reconstruction and development, several items of which are the renewal of a computer control system, reinforcement of the ion source, acceleration technique for some series of cocktail beams, stabilization of the cyclotron beam and design of a new gradient corrector including an active coil. Furthermore, now we are advancing various countermeasure to form the micro beam of 1 micron-meter size by means of focused type, such as the introduction of a flat-top acceleration system, reconstruction of the cyclotron center region, installation of a pair of precise micro slit systems in the trunk beam transport line, and so on.

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WAO2003 Abstract

Abstract No.: **022**

Submitted by: **LONGCOY, Larry**

llongcoy@mit.edu

Institute: **MIT Bates Linear Accelerator Center**

Author(s): **Larry Longcoy, MIT**

Title: **Bates History of Operations**

Preference: **Poster**

Topic: **Bates History of Operations**

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **Bates History of Operations**

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WAO2003 Abstract

Abstract No.: **023**

Submitted by: **YOSHII, Kenzi** kenzi@post.kek.jp

Institute: **Mitsubishi Electric System & Service Engineering Co. Ltd.**

Author(s): **K. Yoshii, Y. Satoh, T. Kitabayashi, H. Iida, S. Fuke, M. Tanaka, T. Kawasumi, T. Aoyama, S. Shimomura, K. Sugino, T. Nakamura, T. Ohkubo, Mitsubishi Electric System & Service Engineering Co. Ltd., and M. Yoshioka, KEK, High Energy Accelerator Research Organization**

Title: **THE OPERATOR-DEVELOPED USEFUL TOOLS AT KEKB ACCELERATOR**

Preference: **Poster**

Topic: **Tools for Accelerator Operation**

Keyword 1: **Operator-developed tools**

Keyword 2: **High performance operations**

Keyword 3:

Abstract: **The main tasks of the operators at KEKB accelerator are safety management, beam tuning and operation logging. In KEKB facility, the accelerator scientists have been exploring and developing new beam tuning methods to realize high luminosity. To master these new methods quickly and correctly, the operators have developed some tools to help themselves by their hands. As a consequence, the stable and high performance operations have realized. In this paper, we list the operator-developed tools and report the merits of developing the useful tools by the operators.**

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WAO2003 Abstract

Abstract No.: **024**

Submitted by: **KAMIKUBOTA, Norihiko**

Norihiko.Kamikubota@kek.jp

Institute: **KEK**

Author(s): **N.Kamikubota, K.Furukawa, T.Suwada and M.Satoh, High Energy Accelerator Research Organization (KEK)**

Title: **Control Transactions of the KEKB Linac during the KEKB Commissioning**

Preference: **Poster**

Topic: **Reliability, Availability and Serviceability**

Keyword 1: **Control**

Keyword 2: **Maintenance**

Keyword 3: **Transaction**

Abstract: **The amount of the control transactions handled by an accelerator control system is a fundamental parameter for long-term maintenance of the control system. This article gives the detailed information on this parameter of the KEK injector-linac during 1997-2002. The increase of transactions in recent years is discussed with respect to the KEKB commissioning activities.**

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WAO2003 Abstract

Abstract No.: **025**

cancelled

Submitted by:

Institute:

Author(s):

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

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WAO2003 Abstract

Abstract No.: **026**

Submitted by: **CHEN, Yanwei**

chenyw@mail.ihep.ac.cn

Institute: **IHEP, CAS**

Author(s): **Chen Yanwei**

Title: **STATUS OF BEPC2001-2002 OPERATION**

Preference: **Poster**

Topic: **Operation**

Keyword 1:

Abstract: BEPC operation made a great progress in the 2001-2002 year. The total operation time was 6372 hours, in which 2473 hours are for high energy physics experiments, 1888 hours for the synchrotron radiation application, 837 hours for the injection, 173 hours for the breakdown, 402 hours for hardware maintenance and regulation, and 556 hours for the machine studies, respectively. Compared with last year, the total operation time exceeded the operation plan by 348 hours because of the high operation efficiency.

1 operation for high energy physics. Operation for the high energy physics account for the 38.8%. While BES operating at the resonance peak of $\psi(2s)$(3770), the maximum current achieved 90mA. Due to the effort of operation group, many record such as peak luminary were broken. 14.63 million hadron case was collected compared with the plan which is 14 million. Meanwhile 168 hours was offered to the 10th experiment hall for the BES... design.

2 operation for synchrotron radiation. Accounting for 29.6%, 1888 hours was offered to synchrotron radiation which is the most operation time up to now, in synchrotron mode, the maximum current achieved 120-130mA with 20-30 hours lifetime. 293 BSRF experiment tasks is completed. On the whole, beam quality and operation efficiency is satisfied.

3 machine studies. Total machine studies time is 556.9 hours in last periods, in order to ensure the operation of BES and synchrotron, less time is used to study the machine. As for the storage ring, the machine studies focused on the following question, PEI experiment, BBA, RF system three cavity tuning and BEPC coupling measurement and so on. As BEPC.. the injector, machine studies is also important for Linear accelerator, many results were achieved on the energy gain research, positron beam, energy spread, buncher and prebuncher adjusting which is essential to keep greater beam and injector rate, the inject rate is more than 3 mA/sec on the average. In addition, injection time is 837 hours, recovery time is 173 which was greatly less than the last periods.

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WAO2003 Abstract

Abstract No.: 027

Submitted by: YU, Xianming

yuxm@mail.ihep.ac.cn

Institute: IHEP, CAS

Author(s): X. Yu, Y. Chen, X. Wang

Title: Operation and Performance of the Beijing Electron Positron Collider

Preference: Poster

Topic: Operation and performance of BEPC

Keyword 1: Electron-positron collider

Keyword 2: Luminosity upgrade

Keyword 3:

Abstract: The Beijing Electron-Positron Collider (BEPC) serving for both high energy physics experiments and synchrotron radiation application has been well operated for more than 13 years since May 1989. After the luminosity upgrade program from 1999, the performance and stability of the operation were much improved in recent years. The peak luminosity of the BEPC has reached $5 \times 10^{30} \text{cm}^{-2} \text{s}^{-1}$ at J/psi energy of 1.55GeV and $1 \times 10^{31} \text{cm}^{-2} \text{s}^{-1}$ at psi(2S) energy of 1.84GeV respectively. Over 50 million J/psi events were accumulated in two years from Sept. 1999 and 14 million psi(2S) events have been taken in the last run from Sept. 2001 to June 2002. For dedicated synchrotron radiation operation, the maximum beam current is around 120mA with lifetime over 20~30 hours. In addition, two insertion devices as well as new beamlines were installed in the last summer(2002). Besides, experimental studies for the machine development and BEPCII R&D are being carried out. Improvement on the machine operation system and the database is still under way. It's expected that BEPC will continue to run stably till the mounting of BEPCII starts. The operation and performance of BEPC will be described in this paper in details.

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WAO2003 Abstract

Abstract No.: **028**

Submitted by: **HARDY, Laurent**

hardy@esrf.fr

Institute: **ESRF**

Author(s): **HARDY, Laurent, ESRF**

Title: **ACCELERATOR RELIABILITY – AVAILABILITY**

Preference: **Oral**

Topic: **Accelerator reliability**

Keyword 1: **Reliability**

Keyword 2: **Availability**

Keyword 3:

Abstract: **This talk will summarize the topics presented at the Accelerator Reliability Workshop held in Grenoble in February 2002. Following a pioneering period during which the major concern of accelerator physicists was to achieve the highest intensity as well as explore the largest range of energy, accelerators quickly became a tool at the service of a wide community. Accelerators started to be used for medical and industrial purposes. Now, a single accelerator can also serve a wide range of Users at the same time (X-rays sources). Reaching a high Mean Time Between Failure as well as high availability became a constraint for such Machines. Various spallation neutron sources are upgraded. The idea of using them for transmutation processes or in the long term, to replace the conventional nuclear reactors, has now been comprehensively studied. Besides pure accelerator physics considerations, it is now agreed that the reliability of these accelerators must be drastically improved with respect to the present situation. Through concrete examples, this presentation will show what is the price to pay to achieve dreaming machines!**

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WAO2003 Abstract

Abstract No.: **029**

Submitted by: **DURU, Philippe**

duru@esrf.fr

Institute: **ESRF**

Author(s): **Ph. Duru, ESRF**

Title: **MINIMIZING RADIATION AND BEAM LOSSES AT ESRF**

Preference: **Oral**

Topic: **Radiation safety**

Keyword 1: **Beam losses**

Keyword 2: **Radiation safety**

Keyword 3:

Abstract: **The ESRF has been in operation for more than 10 years. In addition to the day-to-day effort brought to improve the beam availability and the mean time between failures, a particular attention is paid to fulfil the Radiation protection regulations and to understand the physical mechanisms of losses. The role of the Operator regarding the safety issues is of major importance and therefore many tools and procedures have been implemented to give him the possibility to ensure the operation of the accelerators in the safest condition. Monitoring of parameters, diagnostics tools, losses localisation means and beam interlocks have been developed and are operational from the Control Room. Various measures have also been taken to minimise the risk of radiation losses such as injection efficiency improvement, additional shielding on equipment and infrastructure, research and development on vacuum vessel material, pumping means and baking procedure, scheduling of operating modes. Particular procedures to be strictly observed in case of abnormal lifetime drop or vacuum pressure alarms have been created. As a result of all these efforts made to improve the safe performance of the Machine, the topping up with opened front ends will become the normal way to operate and contribute to improve the performance of the beamlines.**

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WAO2003 Abstract

Abstract No.: **030**

Submitted by: **LUDWIG, Jacque**

ludwig@jlab.org

Institute: **TJNAF**

Author(s): **Jacque H. Ludwig, Jefferson Lab.**

Title: **Maintenance at Jefferson Lab**

Preference: **Oral**

Topic: **Maintenance at Jefferson Lab.**

Keyword 1: **Maintenance**

Keyword 2: **Preventive**

Keyword 3:

Abstract: **Maintenance at Jefferson Lab is largely driven by the experiment schedule; two major maintenance and/or upgrade periods are generally scheduled each year. Unscheduled maintenance involves critical repairs which cannot be deferred to a scheduled accelerator down. Scheduled maintenance includes deferred and preventative maintenance as well as planned modifications and upgrades to the accelerator. This talk will focus on JLAB's approach to Unscheduled and Scheduled maintenance.**

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WAO2003 Abstract

Abstract No.: **031**

Submitted by: **HOJO, Satoru**

s_hojo@nirs.go.jp

Institute: **NIRS**

Author(s): **S.Hojo, Y. Sakamoto, K. Kohno, N. Miyahara, T. Honma and S. Yamada, National Institute of Radiological Sciences, 4-9-1, Anagawa, Inage-ku, Chiba 263-5888, JAPAN, T.Okada, K.Komatsu , H.Yumoto and H. Ogawa. Accelerator Engineering Corporation, 2-13-1 Konakadai, Inage-ku, Chiba 263-0043, JAPAN**

Title: **Operation and some improvements at NIRS cyclotron facility**

Preference: **Poster**

Topic: **Tools for accelerator operation**

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **The NIRS-Chiba isochronous cyclotron has been working in routinely, and providing the stable beams for bio-medical studies and various kinds of related experiments since 1975. The clinical trail of eye melanoma has been under continued. Two new beam lines have been constructed in order to carry out the bio-physical study, and to produce the long-lived R.I.s for SPECT. Some improvements, such as development of control system using “Lab View” for new axial injection line and external beam lines.**

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WAO2003 Abstract

Abstract No.: **032**

Submitted by: **KONDO, Takanori** aec_opeg@nirs.go.jp

Institute: **Accelerator Engineering Corporation**

Author(s): **Takanori Kondo, Naoki Shinozaki, Noriyuki Sasaki, Tomoaki Takei (AEC), *Satoru Yamada, *Eiichi Takada(*NIRS)**

Title: **OPERATIONAL PERFORMANCE OF HIMAC AND CANCER THERAPY**

Preference: **Poster**

Topic: **How we do business**

Keyword 1: **How we do business**

Keyword 2: **HIMAC**

Keyword 3: **AEC**

Abstract: **HIMAC, Heavy Ion Medical Accelerator in Chiba, has been used for cancer therapy, physics and biology experiments since 1994. Accelerator Engineering Corporation, (AEC), has been carrying out operation and maintenance of HIMAC under the auspices of NIRS. The present status of operational performance, maintenance, and schedule are reported.**

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WAO2003 Abstract

Abstract No.: **033**

Submitted by: **MILIEBARI, Salman**

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Institute: **KFSHRC**

Author(s): **Salman Miliebari, Salam Rahma,Ahmed Al-Ghaith,Wellem Van Heerden,and Faisal al-Rumyan**

Title: **Twenty years of CS-30 Cyclotron operation,maintenance,and developmennts**

Preference: **Poster**

Topic: **Maintenance**

Keyword 1: **Cyclotron**

Keyword 2: **Radiopharmaceuticals**

Keyword 3: **Maintenance**

Abstract: **The Cs-30 cyclotron at KFSH&RC has been running for more than twenty years for Radiopharmaceuticals production and Neutron therapy, we are going to present the history of our operations, maintenance, and developments. We had many challenges due to being away from quick technical support.**

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WAO2003 Abstract

Abstract No.: **034**

Submitted by: **SATO, Hikaru**

hikaru.sato@kek.jp

Institute: **KEK**

Author(s): **Hikaru Sato, Noboru Tokuda, Masashi Shirakata, Susumu Igarasi**

Title: **Status of the Maintenance for the KEK 12GeV-PS main ring and power supply.**

Preference: **Oral**

Topic: **Maintenance in the high radiation area**

Keyword 1: **Maintenance work**

Keyword 2: **Radioactive equipment**

Keyword 3: **Beam extraction**

Abstract: **More than 25years passed since the KEK 12GeV-PS construction, some of accelerator equipments are highly radiated, especially the injection and the extraction equipments. In recent years, the higher intensity beam has been required for such as the long baseline neutrino oscillation experiment and rare decay experiments. Then, the circumference of the maintenance work has become severe. Further, almost equipments of main ring and power supply have deteriorated. Status of the Maintenance for the KEK 12GeV-PS main ring and power supply are presented.**

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WAO2003 Abstract

Abstract No.: **035**

Submitted by: **NINOMIYA, Shiro**

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Institute: **RCNP**

Author(s): **S. Ninomiya, T. Saito, H. Tamura and K. Sato, Research Center for Nuclear Physics(RCNP), Osaka Univ.**

Title: **Ultra stable magnetic field of the RCNP cyclotron complex for high resolution beam operation**

Preference: **Poster**

Topic: **Accelerator system operation**

Keyword 1: **Cyclotron**

Keyword 2: **High resolution beam**

Keyword 3: **Magnetic field**

Abstract: **Ultra-precise beams have been successfully accelerated up to 392 MeV in the RCNP cyclotron complex. It is found that stability of a magnetic field is essential. The temperature of an iron core have been stabilized by controlling the temperature of the cooling water for coils. Now we can keep the constant magnetic field within the order of 10^{-6} and ultra-precise beams are kept for a long time without any tuning of cyclotron parameters.**

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WAO2003 Abstract

Abstract No.: **036**

Submitted by: **IMASEKI, Hitoshi**

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Institute: **NIRS**

Author(s): **Hitoshi Imaseki, Masae Yukawa, Takahiro Ishikawa, Hiroyuki Iso, Tsuyoshi Hamano, National Institute of Radiological Sciences**

Title: **Beam alignment of scanning microbeam PIXE analysis system in NIRS Electrostatic Accelerator Facility**

Preference: **Poster**

Topic: **The scanning microbeam PIXE**

Keyword 1: **PIXE**

Keyword 2: **Microbeam**

Keyword 3:

Abstract: **The scanning microbeam PIXE (Particle Induced X-ray Emission) analysis allows identifying the several surface elements and taking the high-resolution elemental maps of the specimen at a time, by using the narrow beam downed the size to 1 micrometer and the maximum scanning area of 2mm square. We are applying this system to the elements and the structure analysis for bio-cells and environmental specimens. The most important procedure to obtain the high-resolution maps is increasing spatial resolution of the microbeam. We diagnose the resolution by using Scanning Transmission Ion Microscopy (STIM) and PIXE images of the 12.5um pitch copper mesh. In this workshop, we introduce our experiences of the alignment of the microbeam system.**

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WAO2003 Abstract

Abstract No.: **037**

Submitted by: **SAITO, Hajime**

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Institute: **SAS**

Author(s): **Hiroyasu Akagi*, Tomonori Ohki*, Eiji Ikezawa and Masayuki Kase, RIKEN, * RIKEN SAS Operator Group**

Title: **Present Status and the Operation of the RIKEN Accelerator Research Facility**

Preference: **Poster**

Topic: **How we do business**

Keyword 1: **Ring cyclotron**

Keyword 2: **Accelerator complex**

Keyword 3: **Heavy ion**

Abstract: **The RARF (RIKEN Accelerator Research Facility) has an accelerator complex consisting of the K540 RIKEN Ring Cyclotron (RRC) as a main accelerator and its two injectors; frequency variable RIKEN heavy-ion linac (RILAC) and K70 AVF Cyclotron (AVF). The RRC together with the AVF and the RILAC have provided routinely a beam time of more than 4400 hours through a year since 1993. Present status of the RARF operation and recent advances will be reported.**

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WAO2003 Abstract

Abstract No.: **038**

Submitted by: **SAITO, Hajime**

Hzm_Saito@shi.co.jp

Institute: **SAS**

Author(s): **Yoji Inata*, Yoichi Ohe*, Hajime Saito**, Shiro Ninomiya, Takane Saito and Kenji Sato, RCNP , Osaka University, * RCNP SAS Operator Group, ** SHI Accelerator Service Ltd.(SAS)**

Title: **Recent Progress in High Resolution Beam Operation of the RCNP Ring Cyclotron System**

Preference: **Poster**

Topic: **How we do business**

Keyword 1: **Ring cyclotron**

Keyword 2: **Accelerator complex**

Keyword 3: **High resolution beam**

Abstract: **The RCNP accelerator system consists of a K400 6 sector ring cyclotron and a K140 AVF cyclotron. Many improvements and efforts have been dedicated especially for the high resolution beam operation. It enables us to deliver a 420MeV He³ beam of less than 15keV resolution in the dispersion matching mode and 90keV resolution in the achromatic transportation mode at a target point. Optimization of flat topping in the ring cyclotron, fine tuning of the AVF cyclotron beam with a phase slit system and the highly stabilized magnet system monitored with NMR probes are the main contributors.**

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WAO2003 Abstract

Abstract No.: **039**

Submitted by: **GREEN, David**

davicg@jlab.org

Institute: **TJNAF**

Author(s): **David W. Green, Jr., Thomas Jefferson National Accelerator Facility**

Title: **HOW WE DO BUSINESS IN ACCELERATOR OPERATIONS AT TJNAF**

Preference: **Poster**

Topic: **How we do business in accelerator operations at TJNAF**

Keyword 1: **TJNAF**

Keyword 2: **Operations**

Keyword 3: **Business**

Abstract: **The accelerator is staffed 24 hours a day by the MCC Operations Group. Shift rotations are for seven days on shift, followed by seven days off shift. A shift typically consists of a Crew Chief and two operators. Personnel spend 70% of time on shift and 30% off shift. The off shift time is utilized for meetings, training and individual projects. Individual projects can consist of hardware or software development, training, documentation development or other areas of interest, depending on the individual.**

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WAO2003 Abstract

Abstract No.: **040**

Submitted by: **TOMA, Violeta**

Violeta@TRIUMF.CA

Institute: **TRIUMF**

Author(s): **Violeta Toma**

Title: **New Control Room Layouts at TRIUMF**

Preference: **Oral**

Topic: **Control room layout**

Keyword 1: **Ergonomics**

Keyword 2:

Keyword 3:

Abstract: **History of Control Room development for the various Operations groups at TRIUMF. Presentation of the ergonomic choices in our Control Rooms.**

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WAO2003 Abstract

Abstract No.: **041**

Submitted by: **BANKS, Greg**

gbanks@aps.anl.gov

Institute: **ANL**

Author(s): **Greg Banks, APS Main Control Room Supervisor**

Title: **Managing communication in the main control room**

Preference: **Oral**

Topic: **Information flow**

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **How we (here at the APS) provide information regarding operational issues, maintenance, training, and safety issues. * I was informed of this submission at the last moment, so the content noted above is just off the top of my head***

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WAO2003 Abstract

Abstract No.: **042**

Submitted by: **YAO, Chihyuan**

cyao@aps.anl.gov

Institute: **ANL**

Author(s): **Randy Flood, C.Y. Yao, Greg Banks, Glenn Decker, Advanced Photon Source, Argonne National Laboratory**

Title: **Automatic Software Processes at the APS***

Preference: **Poster**

Topic: **Automation**

Keyword 1: **Storage ring**

Keyword 2: **Automatic processes**

Keyword 3: **APS**

Abstract: **The Advanced Photon Source (APS) storage ring is a third generation X-ray synchrotron radiation user facility. Many software automatic execution and correction tools have been developed to increase productivity and reduce potential human errors. These include: the injection/top-up script, Procedure Execution Manager (PEM), orbit correction configuration and execution tool, beam steering, etc. We will present the application and benefits of these software tools.**

***Work supported by U.S. Department of Energy, Office of Basic Energy Sciences, under Contract No. W-31-109-ENG-38**

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WAO2003 Abstract

Abstract No.: **043**

Submitted by: **YAO, Chihyuan**

cyao@aps.anl.gov

Institute: **ANL**

Author(s): **Chihyuan Yao, Greg Banks, Glenn Decker, Roger Klaffky**

Title: **How We Do Business at APS***

Preference: **Oral**

Topic: **How we do business**

Keyword 1: **APS**

Keyword 2: **Operation**

Keyword 3: **Synchrotron light source**

Abstract: **The Advanced Photon Source (APS) storage ring is a third-generation dedicated X-ray synchrotron radiation facility that has been in operation since 1996. We report the organization of the operation team, machine performance, operation modes, user beam schedule, user interaction, and other aspects of APS operation. * Work supported by U.S. Department of Energy, Office of Basic Energy Sciences, under Contract No. W-31-109-ENG-38.**

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WAO2003 Abstract

Abstract No.: **044**

Submitted by: **SATOH, Yoshimi**

yosatoh@post.kek.jp

Institute: **MESSEC**

Author(s): **Y. Satoh and M. Tanaka, Mitsubishi Electric System & Service Engineering Co. Ltd., 2-8-8 Umezono, Tsukuba, Ibaraki 305-0045, Japan.**

Title: **CURRENT ACTIVITIES AND DIRECTIONS OF THE OUTSOURCING FOR ACCELERATOR OPERATION**

Preference: **Poster**

Topic: **Cooperation with controls people**

Keyword 1: **Outsourcing**

Keyword 2: **Private enterprises**

Keyword 3:

Abstract: **In some Japanese large accelerator facilities for scientific research, the engineering staffs from private enterprises operate the accelerators as outsourcing service. Up to the present, the requirements for our company were just the operations stably. However, since accelerator technologies have much progressed recently and the accelerators have applied to various research fields, more high-level skills have required to the operators, e.g., the operators must be like the research assistants. In this paper, we report our current activities and our directions to adopt the future advance in accelerator operations.**

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WAO2003 Abstract

Abstract No.: **045**

Submitted by: **WANG, Yan**

ywang@jlab.org

Institute: **TJNAF**

Author(s): **Yan Wang, TJNAF**

Title: **Software Tools Developed By Operators**

Preference:

Topic: **Tools for accelerator operation**

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **To get a job well done one must have good tools. Operators at Jefferson Lab play a very important role in software tools development. Working in the machine control center operators use computers to control the accelerator everyday. The operators have the first-hand experience and know exactly what they need to run the machine. Besides providing valuable information to software group the operators write code to develop new tools to fit their needs.**

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WAO2003 Abstract

Abstract No.: **046**

Submitted by: **EPPS, Michael**

epps@jlab.org

Institute: **TJNAF**

Author(s): **Michael A Epps, TJNAF**

Title: **User Interface Design: Considerations When Developing for Operations**

Preference: **Oral**

Topic: **Interface**

Keyword 1: **Design**

Keyword 2:

Keyword 3:

Abstract: **When developing specialized tools for operations, physicists or other programmers the most important thing to remember about interface design is to know your end customer, their level of knowledge of the subject, and their work environment. Here I will discuss some of the special software tools that have been developed by and for the operations group at Jefferson lab.**

Session: **14A1**

Paper No.: **14A1-5**

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WAO2003 Abstract

Abstract No.: **047**

Submitted by: **NAKABUSHI, Hiromitsu**

nakabushi@aec-beam.co.jp

Institute: **AEC, Accelerator Engineering Corporation**

Author(s): **H. Nakabushi, Y. Sano, C. Kobayashi and H. Tsubuku, Accelerator Div., Accelerator Engineering Corporation (AEC)**

Title: **Recruit/Training of AEC Personnels for Operations of HIMAC Facility**

Preference: **Oral**

Topic: **Recruit/Training**

Keyword 1: **Recruit/training**

Keyword 2: **HIMAC**

Keyword 3: **AEC**

Abstract: **Accelerator Engineering Corporation (AEC) is a private company, which is charged with the operations of HIMAC (Heavy Ion Medical Accelerator in Chiba) accelerator complex. Our major jobs are the accelerator operation and maintenance services, but also are included technical supports of user's irradiation experiments, cancer therapy and relating treatment planning. The necessary technologies are widely spread due to such various support jobs. And, because most of the personnels have different backgrounds and are usually not accelerator-related, recruitment and personnel training are therefore important and urgent problem, being still ongoing matter.**

Session: **12A2**

Paper No.: **12A2-1**

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WAO2003 Abstract

Abstract No.: **048**

Submitted by: **SUZUKI, Takenori**

takenori.suzuki@kek.jp

Institute: **KEK**

Author(s): **Takenori Suzuki**

Title: **Practical Radiation Control at KEK**

Preference: **Invited talk**

Topic: **Radiation safety**

Keyword 1: **Radiation safety**

Keyword 2: **Radiation dose**

Keyword 3: **Radiation control**

Abstract: **KEK has many types of accelerators, which can accelerate electrons, positrons and protons up to 10GeV, 3.5GeV and 12GeV, respectively. These are the main radiation sources at KEK. The operation of these accelerator complex is producing radiation to the environment and experimental holes. The shielding design of accelerators must be done to reduce radiation dose as small as possible for radiation workers and general public during the accelerator operation. After terminating the operation, the main radiation source is created by radioactive accelerator components in the beam line tunnel. Maintenance workers is often to receive a large dose during their work inside the beam line. In order to prevent for radiation workers to receive the large dose, KEK has a design standard of accelerator shielding and a rule to control radiation dose daily, weekly and yearly. In this presentation, the radiation dose control and the standard of accelerator design at KEK will be reviewed.**

Session: **11P1**

Paper No.: **11P1-1**

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WAO2003 Abstract

Abstract No.: **049**

Submitted by: **SANGUANSACK, Nuanwan** nuanwan@nsrc.or.th

Institute: **National Synchrotron Radiation Center(NSRC), Thailand**

Author(s): **N. Sanguansak, S. Rujirawat, R. Apiwatwaja, S. Rugmai, G. Hoyes, K. Hass, W. Pairsuwan and T. Ishii**

Title: **The Commissioning of the Siam Photon Source**

Preference: **Poster**

Topic: **How we do business**

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **The Siam Photon Source is a second hand machine that was transferred from the SORTEC Laboratory. The high energy beam transport line and storage ring have been modified to have a more advanced structure in the Siam Photon Source. The successful electron storage was achieved in December 2001. At present, the maximum stored current is 128 mA and the beam lifetime at 100 mA is 40 minutes and the data is being refined continuously. Since the original machine was built about 15 year ago, we have found various problems inherent in an old and used machine and in the infrastructure of the area during the course of the component storage the machine commissioning. In this report, the problems and their cures are described. Representative examples are degradation of machine components, defects in the original hardware system including mistakes in the circuit design, capturing of internal and external noise affecting the machine operation control system, the irregular floor settlement causing a large COD and inappropriate design of the cooling water system and the air-conditioning system. Experiences made here provide us with useful examples of trouble shooting covering various fields of accelerator technology.**

Session: **10P2**

Paper No.: **10P2-23**

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WAO2003 Abstract

Abstract No.: **050**

Submitted by: **KARNAEV, Serguei**

karnaev@inp.nsk.su

Institute: **Budker Institute of Nuclear Physi**

Author(s): **A. Bogomyagkov, D. Filimonov, S. Karnaev, E. Kremyanskaya, S. Mishnev, E. Simonov, S. Smirnov, D. Shatilov, V. Zorin**

Title: **Machine operations statistics on the VEPP-4 complex**

Preference: **Poster**

Topic: **Accelerator operation**

Keyword 1: **Stability abalysis**

Keyword 2: **Operations schedule**

Keyword 3: **Data acquisition**

Abstract: **The VEPP-4 complex, comprising injector, VEPP-3 storage ring and VEPP-4M collider, provides electron and positron beams for different experiments in parallel. Due to implementation Linux-based machines in the VEPP-4 Control System the vast statistics are available and are used for the analysis of the stability and reliability of the machines. The improvement of the Control System allowed us to successfully accomplish the precision experiment of measuring of the J/psi- and psi'-meson masses. Now the experiment of tau-lepton mass measuring is being prepared on the VEPP-4 complex in which the analysis of the machine parameters will play a vital part. The paper reviews an opportunity for data acquisition in the VEPP-4 Control System. Machine operations schedules for different user works will also be presented in this paper.**

Session: **10P2**

Paper No.: **10P2-24**

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WAO2003 Abstract

Abstract No.: **051**

Submitted by: **BIELER, Michael**

bieler@desy.de

Institute: **DESY**

Author(s): **Michael Bieler, DESY**

Title: **How we do business at DESY**

Preference:

Topic: **How we do business**

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **DESY is one of the larger accelerator labs in the world with three linacs, two synchrotrons and three storage rings. All these machines are operated from one control room. The operators at DESY are recruited from the technical support groups and are doing shifts for roughly a third of their monthly work time. Advantages and disadvantages of this unusual model will be described in this talk.**

Session: **10A2**

Paper No.: **10A2-3**

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WAO2003 Abstract

Abstract No.: **052**

Submitted by: **BIELER, Michael**

bieler@desy.de

Institute: **DESY**

Author(s): **Michael Bieler, DESY**

Title: **Maintenance at DESY**

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **HERA is a big proton-electron collider with a circumference of 6km at the DESY lab in Hamburg, Germany. The machine was commissioned in 1991. The age of the machine and the big number of components make it necessary to add some preventive maintenance to the usual scheme of event triggered repairs. In this talk I will describe the way maintenance is organized at HERA.**

Session: **12A1**

Paper No.: **12A1-4**

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WAO2003 Abstract

Abstract No.: **053**

Submitted by: **Robert Mau**

Institute: **FNAL**

Author(s): **Robert Mau, FNAL**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **At Fermilab we have 2 hr necessary repair periods, 8 to 12 hour shutdowns and multi week shutdowns. The problem is how to communicate the goals and plans of a shutdown, coordinate the work, and ensure that only approved work gets done. This talk will address the aspects of coordinating, communicating, planning, and controlling shutdowns and the role Operations plays in these activities.**

Session: **12A1**

Paper No.: **12A1-1**

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WAO2003 Abstract

Abstract No.: **054**

Submitted by: **Masakazu Yoshioka**

Institute: **KEK**

Author(s): **Masakazu Yoshioka, KEK**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10A1**

Paper No.: **10A1-1**

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WAO2003 Abstract

Abstract No.: **055**

Submitted by: **Peter Schuh**

Institute: **SLAC**

Author(s): **Peter Schuh, SLAC**

Title: **How the SLAC Operations Section does Business**

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **The Operations group at Stanford Linear Accelerator Center operates the two-mile Linac complex to deliver 3 GeV positrons and 9 GeV electrons to the PEP-II B-factory storage rings, and optimizes colliding beams for the BaBar high energy physics experiment. In addition, electron and positron beams with energies from 30-50 GeV are frequently delivered to fixed target experiments and advanced accelerator studies in End Station A and Final Focus Test Beam facilities. This talk will give an overview of the organization and responsibilities of SLAC Operations group, including scheduling, training, maintenance coordination, and communication.**

Session: **10A1**

Paper No.: **10A1-2**

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WAO2003 Abstract

Abstract No.: **056**

Submitted by: **Mario Giannella**

Institute: **SNS**

Author(s): **Mario Giannella, SNS**

Title: **How We Do Business**

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10A2**

Paper No.: **10A2-3**

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WAO2003 Abstract

Abstract No.: **057**

Submitted by: **Tadamichi Kawakubo**

Tadamichi.Kawakubo@kek.jp

Institute: **KEK**

Author(s): **Tadamichi Kawakubo and Hikaru Sato, KEK**

Title: **The troubles from Radiation Dose in KEK-PS**

Preference: **Oral**

Topic: **The troubles from Radiation Dose in KEK-PS**

Keyword 1: **KEK PS**

Keyword 2: **machine trouble**

Keyword 3: **radiation dose**

Abstract: **The operation time of KEK-PS machine has increased rapidly. The operation schedule is so tight, that machine users request to repair as soon as possible in the case of machine trouble. We introduce the transition of the beam intensity, residual activity in PS area, itemized machine operation time and itemized machine troubles. Even if a magnet with high radiation dose is broken, we must change it to the spare soon. We ask PS-staff to join the work for changing the magnet according to the order list which is made by some formula consist of individual age and radiation exposure amount. It is very important to watch the environment in PS area, as the fire alarm and TV so on. However, those equipments are weak against radiation damage. We also report the radiation dose during the operation in PS area and troubles of their equipments.**

Session: **11P2**

Paper No.: **11P2-2**

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WAO2003 Abstract

Abstract No.: **058**

cancelled

Submitted by:

Institute:

Author(s):

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session:

Paper No.:

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WAO2003 Abstract

Abstract No.: **059**

Submitted by: **JOHNSON, Dan**

Institute: **FNAL**

Author(s): **Dan Johnson, FNAL**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-1**

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WAO2003 Abstract

Abstract No.: **060**

Submitted by: **STANEK, Michael**

Institute: **SLAC**

Author(s): **Michael Stanek, SLAC**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-2**

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WAO2003 Abstract

Abstract No.: **061**

Submitted by: **GEAR, Peter**

Institute: **RAL**

Author(s): **Peter Gear, RAL**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-3**

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WAO2003 Abstract

Abstract No.: **062**

Submitted by: **INGRASSIA, Peter**

Institute: **BNL**

Author(s): **Peter Ingrassia, BNL**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-4**

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WAO2003 Abstract

Abstract No.: **063**

Submitted by: **GIANNELLA, Mario**

Institute: **SNS, Oak Ridge**

Author(s): **Mario Giannella, SNS**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-5**

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WAO2003 Abstract

Abstract No.: **064**

Submitted by: **MARKUS, Albelto**

Institute: **CERN**

Author(s): **Albelto Markus, CERN**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-6**

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WAO2003 Abstract

Abstract No.: **065**

Submitted by: **HARDY, Laurent**

Institute: **ESRF**

Author(s): **Laurent Hardy, ESRF**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-7**

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WAO2003 Abstract

Abstract No.: **066**

Submitted by: **YOSHIOKA, Masakazu**

Institute: **KEK**

Author(s): **Masakazu Yoshioka, KEK**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-9**

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WAO2003 Abstract

Abstract No.: **067**

Submitted by: **SPATA, Mike**

Institute: **TJNAF**

Author(s): **Mike Spata, TJNAF**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **10P2**

Paper No.: **10P2-10**

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WAO2003 Abstract

Abstract No.: **068**

Submitted by: **TAKADA, Eiichi**

Institute: **NIRS**

Author(s): **Eiichi Takada, NIRS**

Title: **Review on Recruit/Training of Operators**

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **12A2**

Paper No.: **12A2-3**

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WAO2003 Abstract

Abstract No.: **069**

Submitted by: **WILLIAMS, Neville**

Institute: **BNL**

Author(s): **Neville Williams, BNL**

Title: **Bio metrics in accelerator personnel safety systems**

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **Local key trees were installed at the counting houses to minimize the time it takes for the RHIC users to access the experimental areas. To further streamline the process, iris scanners are used to verify the C-AD Access training required to release the access keys. Iris scanner technology was chosen based on its high reliability rating. Its rate of false identification is a factor of a 1000 lower than hand reader technology. This ensures more accurate tracking of users accessing beam enclosures. The advantages and disadvantages for using iris scanners in an experimental access system will be presented.**

Session: **11P2**

Paper No.: **11P2-3**

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WAO2003 Abstract

Abstract No.: **070**

Submitted by: **KUMAR, Pradeep**

Institute: **CAT**

Author(s): **Pradeep Kumar, V.Bhatnagar, A.A.Fakhri, P.Fatnani, A.D.Ghodke, R.K.Gupta, P.R.Hannurkar, P.Kant, M.G.Karmarkar, S.Kotaih, M. Pravin Kumar, G.K.Sahoo, R.S.Saini, A.Sharma, S.K.Shukla, Gurnam Singh, B.Singh, H.C.Soni, D.S.Thakur, D.K.Vats and S.K.Prajapati**

Title: **Operation Of INDUS-1, India's First Synchrotron Radiation Source**

Preference: **Oral**

Topic: **Operation of INDUS-1 electron storage ring**

Keyword 1: **Synchrotron Radiation**

Keyword 2: **Acceleration**

Keyword 3: **Storage**

Abstract: **INDUS-1 is a 450 MeV electron storage ring for the production of the synchrotron radiation in VUV range with a critical wavelength of 61 Angstrom. The ring was commissioned in June 1999. Since then the ring is in regular operation. This Synchrotron Radiation Source (SRS) consists of a 20 MeV Microtron, a 450 MeV Booster Synchrotron and a Storage ring. In this paper operation aspects of INDUS-1 SRS will be presented.**

Session: **10A2**

Paper No.: **10A2-4**

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WAO2003 Abstract

Abstract No.: **071**

Submitted by: **MAU, Robert**

Institute: **FNAL**

Author(s): **Robert Mau, FNAL**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **14A2**

Paper No.: **14A2-1**

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WAO2003 Abstract

Abstract No.: **072**

Submitted by: **INGRASSIA, Peter**

Institute: **BNL**

Author(s): **Peter Ingrassia, BNL**

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

Session: **14A2**

Paper No.: **14A2-2**

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WAO2003 Abstract

Abstract No.: **073**

Submitted by: **FUKUI, Toru**

Institute: **SPring-8**

Author(s): **Toru Fukui, SPring-8**

Title: **Design of the Spring-8 control room - How to make comfortable working space.**

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract: **We designed a control room to keep quiet as a office and coordinate furniture with ergonomics. Also we talk about a plasma display stand to display the alarm information.**

Session: **11A1**

Paper No.: **11A1-3**

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WAO2003 Abstract

Abstract No.: **074**

Submitted by:

Institute:

Author(s):

Title:

Preference:

Topic:

Keyword 1:

Keyword 2:

Keyword 3:

Abstract:

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Paper No.:

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