

# The JACoW Collaboration

(the **J**oint **A**ccelerator **C**onferences **W**ebSite Collaboration)

Presented by J. Poole  
on behalf of the collaboration

# In the beginning ...

- In December 1990 the hypertext markup language project was introduced at CERN and by 1993 the WWW was being used at accelerator labs around the world.
- In this period, Adobe Portable Document Format (PDF) was arriving in the workplace.
- In 1994, conference papers were still submitted as camera-ready copy.

# The Key Factors

- In 1995 there was a decision to publish EPAC electronically (using PDF).
- At the same time, preparations were being made for electronic publication of PAC95 and EPAC was invited to collaborate in the process in Dallas.
- Learning from this experience it was decided to develop author and editor education ahead of EPAC96.
- This led to the formation of a team which went on to become the basis of the JACoW Team.

# The Conception

- Following publication of EPAC96 on the web, Ilan Ben Zvi, PAC'99 Programme Chair, suggested that PAC and EPAC should establish a joint website for publication of their proceedings.
- The organisers of both series agreed to the principle and to give continued support to such a collaboration.

# The Birth

- APAC was subsequently invited to join the collaboration and JACoW was formally established after a meeting at PAC'97.
- It was agreed that the collaboration would report to a steering committee comprising officials from the collaboration and the programme chairs from previous, present and future member conference series.

# The Growing Pains

- The Acrobat search engine used to be a separate plug-in and had to be purchased separately for inclusion on the conference CD.
- At the early conferences a very high proportion of the submitted files were unusable.
  - People did not know how to make PostScript.
  - Often PostScript containing graphics would contain pathological bugs (spinning and exploding figures).
  - LaTeX installations did not employ Type 1 fonts which rendered the PDF unreadable on the screen and unusable with the search engine.

# Early Developments

- Effort was concentrated on author education:
  - Processing at the conference and feedback through the dotting board.
  - Seminars at various institutes and the development of documentation on the website.
- and on editor training:
  - Hands on experience at conferences with experts on hand to assist.
  - Technical meetings.

# Coming of Age

- At the JACoW Team Meeting at LBNL in 2003, the foundations of the Scientific Programme Management System (SPMS) were laid with the definition of a functional specification and implementation plan.
- SPMS is based on two pillars:
  - a repository of author and affiliation definitions implemented in Oracle.
  - A set of Oracle based tools for conference organisation and management.
- SPMS has been in use since 2004 and is now a fundamental feature of JACoW activities.

# JACoW Collaboration Today

- The collaboration is now involved in all aspects of conference organisation and proceedings production.
- The focus is now on provision of its services (website, SPMS and expertise), author education, and support to conference organisers.
- **However, it should be noted that it remains the responsibility of the particular conference to deliver the proceedings to JACoW in an appropriate form for publication on the website.**

# JACoW Officers

- **Chairman:**  
Volker Schaa, GSI
- **Deputy Chair:**  
Ivan Andrian, ELETTRA
- **Coordinator:**  
Christine Petit-Jean-Genaz, CERN
- **Webmasters:**  
Ronny Billen, Christine Petit-Jean-Genaz, CERN (Europe)  
Kazuro Furukawa, KEK (Asia)
- **Regional Support:**  
Matt Arena, FNAL (N. America)  
Ronny Billen, CERN (Europe)  
Takashi Kosuge, KEK (Asia)

# Membership

- There are currently 16 conference series in JACoW (98 sets of proceedings published):
  - BIW, COOL, CYCLOTRONS, DIPAC, ECRIS, FEL, HIAT, ICALEPCS, ICAP, ICFA ABDW, IPAC, LINAC, North American PAC, PCaPAC, RuPAC and SRF.
- Boundary conditions include attendance at Team Meetings and participation in JACoW activities, because these are essential to maintaining high standards and continuity and to the success of the entire venture. *JACoW therefore reserves the right to exclude publication for any conferences not respecting this condition.*

# Personal Observations I

- JACoW provides a fantastic service to the accelerator community through its open archive.
- In 1996 it cost around \$100k to produce the paper volumes and CDs for EPAC.
  - There is a cost to publication on JACoW but conferences are often reluctant to recognise this and it is a constant battle to maintain financial support for JACoW activities at a conference.
  - Publication on an ‘alternative’ open archive such as those offered by the publishing houses would cost more and would not offer the advantages of our unique site.

# Personal Observations II

- The cost of publication on JACoW is very reasonable.
- The facility for refereeing is built into SPMS but is only used by one conference series at present.
- Preparation of a paper for publication on JACoW is much simpler than for most publishers.
- Publication is much faster.
- The JACoW model therefore offers everything that is needed for the open archive publication of scientific papers and perhaps members of the wider physics community could think about it.

# The Key Elements of JACoW in 2010

- The open archive website with its custom search engine.
- Author guidelines, templates and help facilities.
- The repository of authors and affiliations.
- The event organisation tools known as 'the SPMS'
- A core team of paper and transparency processing experts.
- Scripting utilities for automated abstract booklet, proceedings books and website production etc.

**and most importantly - very dedicated people.**

# Proceedings Production Process

- Collect the abstracts, author names and the names of their institutes (affiliations).
- Accept abstracts for the conference
- Collect the files for the papers (before the conference)
- Process the files for the papers to make the raw PDF
- Feedback information to the authors about the processing
- Make quality control checks
- Number the pages, generate keywords
- Fill in the hidden fields in the PDF files and add page numbers and banners
- Generate the index files (table of contents, author index)
- Add the 'wrapper' (introduction, acknowledgements etc)
- Final quality checks
- Write the website, CD/DVD/USB stick (print hard copies etc.)

# JACoW SPMS

- All of the activities on the previous page can be achieved without using the SPMS.
- However, if the expertise and support is available for a conference, the SPMS can automate much of the work and handle much of the event organisation as well ...
- Furthermore, the JACoW Proceedings Script Package (JPSP) interacts closely with SPMS for automation of publication.

# SPMS also Supports

- Conference registration (including payment) and accommodation.
- Scientific programme management (accept, classify, assign to sessions etc.).
- Industrial exhibition management.
- Management of presentations.
- Poster management.
- Refereeing of papers.
- Pre-press publication.
- Single click production of citation data for a conference.

# At the conference

- In many cases, a team of dedicated volunteers is assembled to assist in the running of the proceedings and editorial offices.
- Each conference brings some new challenges (new versions of software, new tools) so we need to face up to these challenges and maintain the morale of the volunteers faced with a huge work load.
- We try to do this by encouraging a relaxed atmosphere in the office and by supplying food and beverages at social events.

# Paper Processing

- We may call ourselves editors but at a conference, we are really only processing the papers.
- Processing can be characterised as:
  - Crap in – crap out<sup>†</sup>.
- However, we make every effort to ensure that the authors are equipped to submit the files we require by providing:
  - templates
  - rules/guidelines
  - support

<sup>†</sup> Camera ready and processed

# Training

- Significant efforts are made by many of the larger conferences to offer hands-on experience to future conference staff and editors.
- It is important to bring together experts and novices and to have them working side-by-side in the proceedings offices.

# Behind the closed doors

- The team is instructed about how to proceed and various key pointers are given:
  - The aim is to produce a set of files for publication on JACoW, which means PDF files with correct paper size, fonts and performance.
  - They should not be surprised to learn that authors apparently cannot read, write or follow simple instructions.
  - They should not be concerned about the content of the papers.
- The editorial teams have a competition for the worst paper – the so-called brown dot papers.

# Chamber of Horrors

*Corrected by hand, scanned and inserted as an image into Word before making a PostScript file*

## PREPARATION OF PAPERS FOR JACoW CONFERENCES\*

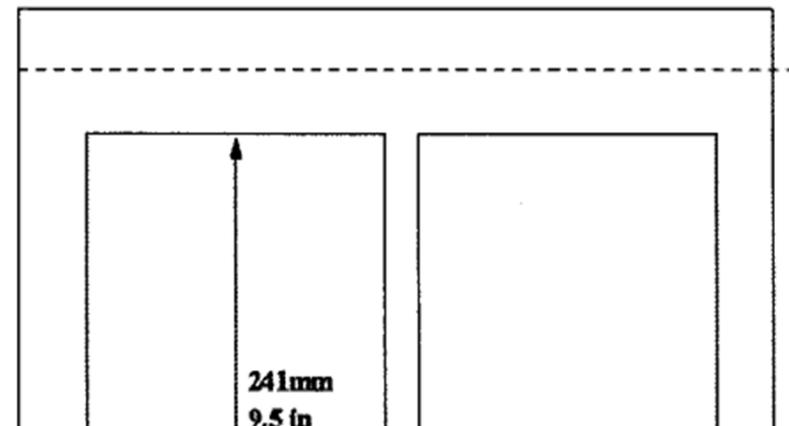
J. Poole, C. Petit-Jean-Genaz, CERN, Geneva, <sup>S</sup>Switzerland  
C. Eyberger<sup>#</sup>, ANL, Argonne, IL 60439, U.S.A.

### *Abstract*

Many conference series have adopted the same standards for electronic publication and have joined the Joint Accelerator Conference Website (JACoW) collaboration [1] for the publication of their proceedings. This document describes the common requirements for the submission of papers to these conferences. Please consult individual conference information for page limits, method of electronic submission, etc. It is not intended that this should be a tutorial in word processing; the aim is to explain the particular requirements for electronic publication at these conference series.

bottom of a page to ensure proper flow of the text (Word templates only).

A4 paper (21.0 x 29.7 cm)



# More Horrors

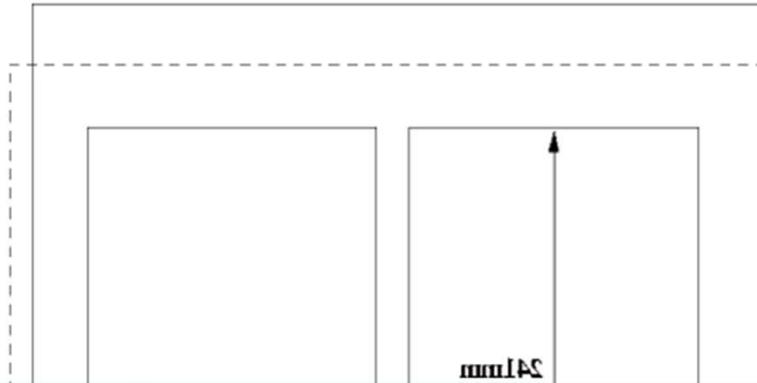
*Buried in the PostScript printer tools is the possibility to print mirrored ...*

## \*PREPARATION OF PAPERS FOR JACO<sup>W</sup> CONFERENCES\*

J. Poole, C. Petit-Jean-Genat, CERN, Geneva, Switzerland  
C. Eyrberger, ANL, Argonne, IL 60439, U.S.A.

bottom of a page to ensure proper flow of the text (Word templates only).

A4 paper (21.0 x 29.7 cm)



Abstract

Many conference series have adopted the same standards for electronic publication and have joined the Joint Accelerator Conference Website (JACO<sup>W</sup>) collaboration [1] for the publication of their proceedings. This document describes the common requirements for the submission of papers to these conferences. Please consult individual conference information for page limits, method of electronic submission, etc. It is not intended that this should be a tutorial in word processing; the aim is to explain the particular requirements for electronic publication at these conference series.

and more ...

*LaTeX, all Type3 fonts, 16pt, single column 10 pages...*

## PREPARATION OF PAPERS FOR ACCELERATOR CONFERENCES

J. Poole, C. Petit-Jean-Genest, CERN, Geneva, Switzerland  
P. Lucas, FNAL, Batavia, IL 60510, USA

September 25, 2002

### Abstract

AFAC, EPAC and PAC have adopted the same standards for electronic publications and have created the Joint Accelerator Conferences Website (JACoW) [1] for the publications of their proceedings. This document describes the common requirements for submissions of papers to these conferences. Please consult individual conference pages for information on numbers of pages, method of electronic submission, etc. It is not intended that this should be a tutorial in word processing that aim is to explain the particular requirements for electronic publications at these conference series.

## 1 SUBMISSION OF PAPERS

Each author should submit all of the source files (text and figures), the PostScript version and a hard copy of the paper. This will allow the editors to reconstruct the paper in case of processing difficulties and compare the version produced for publication with the hard copy.

# Explain this !!!

**HRGHHHHHHHGHHHHHHHHHHHHH HHH HHHHHHHHHHHHHH HHH PHHHHHGHHH H  
HHHH HHHHHHHHHHHHHHGHHHHH**

Xiangyun Chang, Ilan Bxia ni, J G KX ill h, ChiXniIh Xai, Bi a , Xi ann, i i XXang, Xia ig i

AAAAAAA

r Wö77rWSöc77WicS7AöAu7söusuScyöWö77SöSch. Ww  
7Wych.AhöWwArSWWSS7WöVssSWuchöWw 7wWöSh.Ahö  
WwArSWWSc7W. SrWöSösu. Wc77WicS7AöcS7.SW.öBu.S  
ShWchS7WöVöS. . Ww7WwöS7WöVSWWöVöc7W. SrWöSö  
ShWsu. Wc77WicS7AöcS7.SWöWwS7öShWroc7wöW.öWhW  
Ww7ScöWicW7Aöc7.öcS7öSc7öWöS. . cWw7Wyöc7sWöShVö  
cSh7WöSö. W. r77WöShWöWöWöWöSc.Sy.öByöus.7AöSöc7wö  
WwWcyöAu7öw. ShöSörWwS WöcSh7WöS7VöSöcSrWwcyö  
Ww.A7WwWöWöc7WöVöcS7öAVöSch.AhöS7WSAVöcurrWSS7Vö  
Sch.AhöWöSc.SyöWöWöV. ShöScWSSVöWwö 7wWöc7ssö77öShVö  
cS7.SyöwScöWh.sö. S. Wösh7wsöShSSöShWör Wö77rWSöc  
c77WicS7AöAu7öcS7öWöSöVöcWö. ös7auS77öWöSh7sVö  
. r77WöSöwh.chö7WwWh.Ahö. WwS7WöS7WSAVöcurrWScö7wö  
Ww.SS7cVöWöS77öWöWöSösuchöSöShWwSS7.sScöWöS7yö  
s77ö r7ac.WwöWwSr Wc77c7Aö. r77WöS7WöWwAyö  
Ww77WöS.7ScöWwS W r77WöSö

\*\*\* \*\* \*

ShWöWöS77öWöWöWwAyöSSöAu7öWöSö.söh.AhöWwWuSö  
W7WwWöS7VöShWöWwö77öSWö.sö77SöS7ösWScöWwWuSö  
WwWwWwWöWöWöSSAö77WöS7röcS7.SyöShSöS7öScWwSS7Aö  
AS. ö7WöWuSWöWöW7rW7AöSSö ucsWöWöW7WöV. ShöWwö  
7WwWwWwöS7öAVöWwWö.ö  
A77ShWöW. 7rSS7SöS. WöS7WwW.A7.7AöShWör Wö77rWSöc  
c77WicS7AöcS7.SyöshöWw.SS7cVöc7W. WsSS77ässuWöSö  
.sö. 7.7SWö.7örWwWcVöWöShSSöSörWöWöWöcSh7WöS7VöSö  
cc7sWö7cW7. WöSöShWöcSh7WöS7VöWö.rWöS7öAVöShWöWöSö  
Ww.SS7cVöc7W. WsSS77.öWhWöcSh7Wö rVöWöSö SAS.7ö  
WöVöSöWöShWöWwö77öcSh7WöWöSö. r77.WwöS77AöWö  
Wöus.7Aö7VöRöcSh7WöWh.chö.sö7Wöyö.W. 7rSS7SöWö  
Ww.SS7cVöc7W. WsSS77.öS7ö7uröcS7.SyöWw.A7öShWöcSh7Wö  
rVöWöSöShWöWwö77öcSh7WöWöSö. r77.WwöS77AöWö  
cSh7WöSöWu7VöS7öWöSWuSWö7WöWwö7öSWö.ö  
WhWöWöWöWöWöSöSö.. SS77ö77öShWöcS7.SyöWöSö.sö77ShWö  
.ssuWöS7ö77s.WwöWöShWör Wö77rWSöc77WicS7AöAu7.öWhWö  
Wwö77öSWö7W7urö r Wö77rWSöc77WicS7AöAu7ö.sö  
WwWwWöS7öShSSöShWöSWWuWöSW. WSSurWö77öShWöcS7.Syö

# Font Problems

gas scattering. Tune footprints, diffusion coefficients, emittance growth, and lifetimes are calculated by this code. Fig. 3 shows the tune footprints for the blue beam at the tunes (0.68, 0.69) for beam separations of 3 and 10  $\sigma$ . At this working point the footprint is clear of the neighboring 3rd and 10th order resonances.

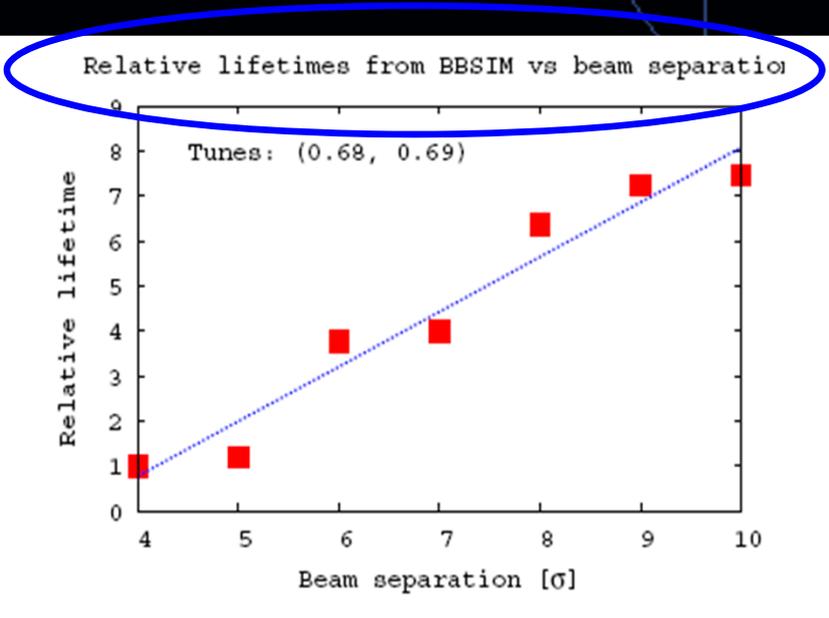
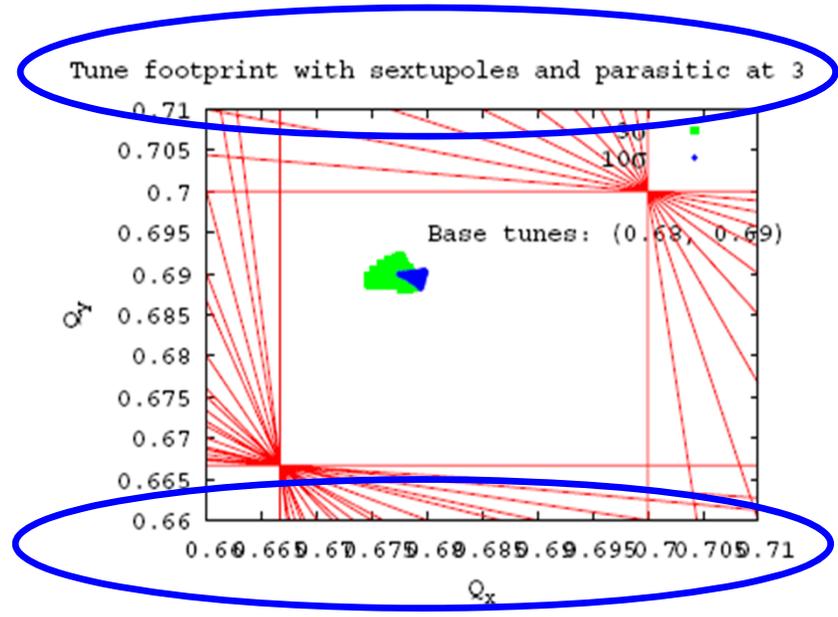


Figure 5: Relative lifetime vs separation with BBSIM.

ing crossed a given aperture at regular intervals during the tracking process. Fig. 6 shows the loss rate as a function of the beam separation. This calculation predicts a qualitative change in the losses at a separation of 5 $\sigma$  - losses are flat for smaller separations but fall steeply at larger separations.

# Fonts corrected

gas scattering. Tune footprints, diffusion coefficients, emittance growth, and lifetimes are calculated by this code. Fig. 3 shows the tune footprints for the blue beam at the tunes (0.68, 0.69) for beam separations of 3 and 10  $\sigma$ . At this working point the footprint is clear of the neighboring 3rd and 10th order resonances.

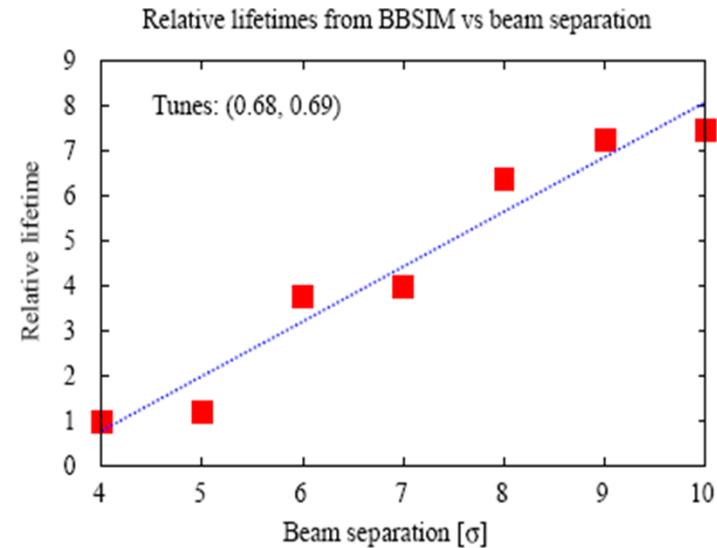
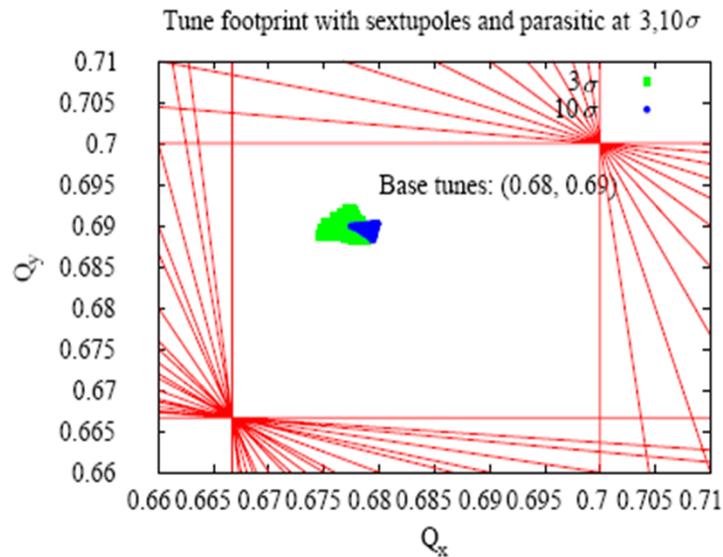


Figure 5: Relative lifetime vs separation with BBSIM.

ing crossed a given aperture at regular intervals during the tracking process. Fig. 6 shows the loss rate as a function of the beam separation. This calculation predicts a qualitative change in the losses at a separation of 5 $\sigma$  - losses are flat for smaller separations but fall steeply at larger separations.

# Asian Font

*Often a non-breaking space in an Asian font is not recognised and appears as a box, but equally it may be an unrecognised symbol !*

J. Poole, C. Petit-Jean-Genaz, CERN, Geneva, Switzerland  
C. Eyberger<sup>#</sup>, ANL, Argonne, IL 60439, U.S.A.

## *Abstract*

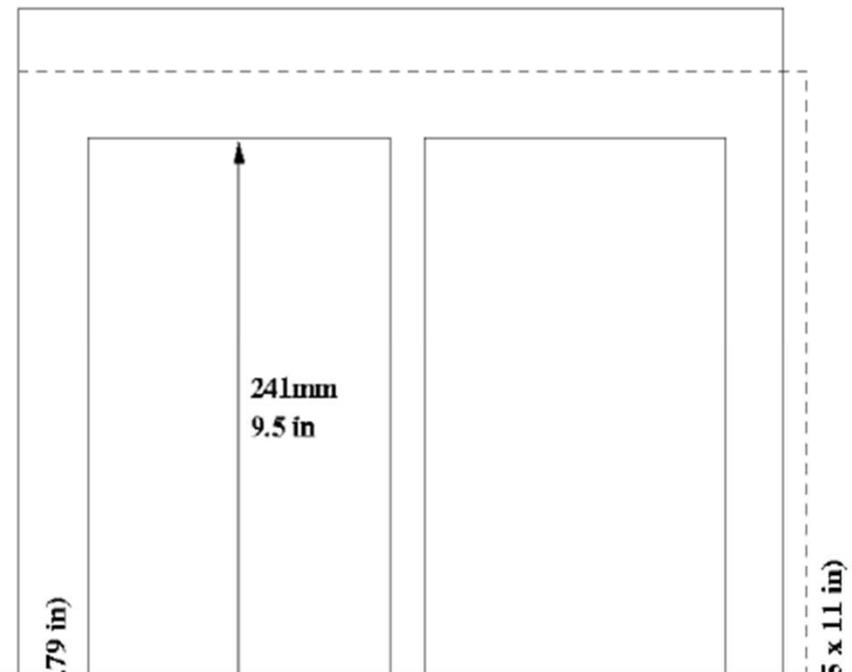
Many conference series have adopted the same standards for electronic publication and have joined the Joint Accelerator Conference Website (JACoW) collaboration [1] for the publication of their proceedings. This document describes the common requirements for the submission of papers to these conferences. Please consult individual conference information for page limits, method of electronic submission, etc. It is not intended that this should be a tutorial in word processing; the aim is to explain the particular requirements for electronic publication at these conference series.

## **SUBMISSION OF PAPERS**

Each author should submit the PostScript and all of the source files (text and figures), to enable the paper to be reconstructed if there are processing difficulties.

bottom of a page to ensure proper flow of the text (Word templates only).

**A4 paper (21.0 x 29.7 cm)**



# ... and new this year

*Using Ghostscript "pswrite" with a very low resolution to make the PS file*

## Plans for the ESS LINAC

S. Peggs<sup>1</sup>, S. Bousson<sup>2</sup>, R. Calaga<sup>3</sup>, H. Danared<sup>4</sup>, G. Devanz<sup>1</sup>, R. Duperrier<sup>1</sup>, J. Eguia<sup>5</sup>,  
M. Eshraqi<sup>1</sup>, S. Gammino<sup>6</sup>, H. Hahn<sup>1</sup>, A. Jansson<sup>1</sup>, M. Lindroos<sup>1</sup>, C. Oyon<sup>7</sup>,  
S. Pape-Møller<sup>8</sup>, A. Ponton<sup>1</sup>, K. Rathsman<sup>1</sup>, R. Ruber<sup>9</sup>, T. Saogata<sup>10</sup>, G. Trahern<sup>1</sup>  
-ESS, <sup>2</sup>IPNO, <sup>3</sup>BNL, <sup>4</sup>CEA-Saclay, <sup>5</sup>Tekniker, <sup>6</sup>TNFN-LNS, <sup>7</sup>SPRI, <sup>8</sup>Århus U, <sup>9</sup>Uppsala U, <sup>10</sup>JLab.

### Abstract

Lund was chosen as the site of the European Spallation Source in May 2009. The *Design Update* phase (January 2011 to December 2012) will be completed by the delivery of a Technical Design Report. After approval of the CDR, the ESS project will proceed to construction, installation, and commissioning. The superconducting linac is expected to begin delivering beam to users in 2019, eventually delivering an average beam power of 5 MW to a single neutron target station with a proton ( $H^+$ ) macro-pulse current of (provisionally) 50 mA at 2.5 GeV in 2.0 ms long pulses at a repetition rate of 20 Hz.

Table 1: Primary ESS performance parameters in the long pulse conceptual design. Columns **B** and **S** show the minor differences between the ESS-Bilbao and ESS-Scandinavia nominal parameters (2009). The values in column **S** are called the "provisional baseline".

		<b>B</b>	<b>S</b>
<b>INPUT</b>			
Average beam power	[MW]		5.0
No. of instruments			22
Macro-pulse length	[ms]	1.5	2.0
Pulse repetition rate	[Hz]		20

# Slow Graphics

- Plots produced by software like tracking programs often contain millions of points which are faithfully reproduced in the PDF. However this makes them very slow to display. JACoW guideline is that any page of a paper should display in less than  $5/N$  seconds (where  $N$  is the processor speed in GHz).
- The simplest way to fix this is to make a bitmap version of the graph (using a screen dump or there are some sophisticated tools one can use) and to re-insert this in the paper. The visual result is fast and virtually indistinguishable from the original but is not dynamic.

# Why conform to JACoW Specifications

- Paper size – JACoW papers will place the text in the centre of the page whether they are printed on A4 or US Letter paper. There will therefore be no loss of information. The templates are set up for a final paper size of US Letter height and A4 width.
- The margins are set to allow whitespace for the subsequent headers and footers.
- Fonts – there are many issues with fonts which are related to copyright issues and the ability to embed the fonts in the PDF file. With embedded fonts, the paper will display correctly on any computer.

# JACoW Templates

- Designed to enable authors to deliver papers which conform to the JACoW requirements and for ease of use.
- Margins and paper size chosen to meet JACoW technical requirements.
- The two column format allows one to fit 15% more text into the same number of pages.
- The 10pt font is the minimum size for easy reading.
  - The latter two points are of less importance in these days of electronic publication, but some conferences still produce books and therefore it is important for them to minimise the number of pages.

# Type 3 Fonts

- Some printer drivers will use Type 3 fonts when they generate a PostScript file. This used to be a problem in earlier versions of Acrobat (as seen a few slides back) but has been fixed for some years now.
- However, characters in Type 3 fonts are images and Acrobat cannot search text presented as images. Such files are useless on the JACoW server as they cannot be searched.

# Why not accept PDF ?

- Most authors can generate PDF files however, the standard is far from uniform and often they are not acceptable for JACoW because:
  - The compression settings are wrong
  - Fonts not embedded
  - JACoW scripting procedures require a standard input
- Most importantly, PDF files produced according to the JACoW recipe are PDF/X compliant, which is fundamentally important for the long term.
- JACoW will therefore continue to ask for PostScript in the immediate future.

# Feedback to Authors

- First line feedback is through the ‘dotting board’
- Second line is to be summoned to the proceedings office for a tongue lashing.
- If all else fails – we know who you are and, thanks to SPMS, we know where to find you !!
- Our approach has led to significant improvements in the quality of the submitted papers.
- However, engineers and physicists never cease to amaze us with their ingenuity and the lengths to which they will go to cheat. But be warned – we will meet this challenge head-on.

# Problem Solving

- After each conference the problems are analysed and at the team meetings we try to come up with solutions which will make the authors' and our lives easier.
- Usually the result is a new page in the guidelines and help information.
- Less frequently there is some major technical development like the recent deployment of a downloadable generic postscript driver. This allows authors to install a driver locally which will produce conforming PostScript files for JACoW conferences.

# Automated Publication

- Volker Schaa has developed a set of scripts, known as the JACoW Proceedings Script Package (JPSP) which automatically produce abstract booklets, proceedings volumes, CD/DVD images and indexed websites.
- The scripts also modify the processed PDF files, inserting page numbers, banners and footers as well as filling the hidden fields (Title, author names, keywords).
- The scripts are available under GPL and can be downloaded from JACoW.

# Abstract Booklet

MOAAU — Opening Talk & FEL Prize New Lasing 28-Aug-06 08:30 - 10:30

## MOAAU — Opening Talk & FEL Prize New Lasing

### FEL Prize Lecture: Coherent Electron-Beam Radiation Sources and FEL: A Theoretical Overview

The theory of Coherent electron beam radiation devices in general, and FEL in particular, is reviewed in terms of a general simple formulation based on modal expansion of the radiation field.

A. Gover (University of Tel-Aviv, Faculty of Engineering)

A variety of e-beam radiation mechanisms (FEL, TWT, Cerenkov Radiation) have common features. All these radiation mechanisms can emit coherent or partially coherent radiation by means of three basic kinds of radiation processes: Spontaneous emission (shot-noise radiation), Super-radiance (bunched-beam coherent radiation) and Stimulated emission. The common radiation processes and their relations are explained, in both frequency and time domains, in terms of the radiation modes expansion formulation. It is shown that the coherence properties of the emitted radiation, in each radiation process, depend on the phase relations between the radiation wave-packets, emitted by the individual electrons and their entrance distribution statistics. In the high gain linear regime all these radiation mechanisms satisfy the Pierce dispersion equation, and all radiation characteristics are derived from the Pierce transfer functions. I employ the formulation to delineate limits of coherence of electron beam radiation sources, and particularly examine possible schemes for turning SASE FELs to operate as coherent radiation sources.

### Evolution of FELs Over the Last 34 Years

The concept of the free electron laser (FEL) started 34 years ago with Madey's 1972 paper. The basic mechanisms which employ

W.B. Colson (NPS)

MOAAU01

AAU02

# Websites for JACoW

## FEL 2006, BESSY, Berlin

### Contributions to the Proceedings

(Dec 1: 52 Orals, 191 Papers, 204 Contributions)

fel 06  
BERLIN

Contributions to the conference have been classified into the following main groups:  
invited papers, contributed papers, and poster presentations.

Note regarding the orals: **movies are embedded** into the PDF slides (hint: pointer shape changes).  
Sizes of the high quality MP3 files vary between 7 and 57 MB (dependent on the talks duration).

### 28th International Free Electron Laser Conference

**Invited & Oral**  
1. Invited  
2. Oral  
**Contributed Papers**  
3. Invited  
4. Oral  
5. Invited  
6. Oral  
7. Invited  
8. Oral  
9. Invited  
10. Oral  
11. Invited  
12. Oral  
13. Invited  
14. Oral  
15. Invited  
16. Oral  
17. Invited  
18. Oral  
19. Invited  
20. Oral  
21. Invited  
22. Oral  
23. Invited  
24. Oral  
25. Invited  
26. Oral  
27. Invited  
28. Oral  
29. Invited  
30. Oral  
31. Invited  
32. Oral  
33. Invited  
34. Oral  
35. Invited  
36. Oral  
37. Invited  
38. Oral  
39. Invited  
40. Oral  
41. Invited  
42. Oral  
43. Invited  
44. Oral  
45. Invited  
46. Oral  
47. Invited  
48. Oral  
49. Invited  
50. Oral  
51. Invited  
52. Oral  
53. Invited  
54. Oral  
55. Invited  
56. Oral  
57. Invited  
58. Oral  
59. Invited  
60. Oral  
61. Invited  
62. Oral  
63. Invited  
64. Oral  
65. Invited  
66. Oral  
67. Invited  
68. Oral  
69. Invited  
70. Oral  
71. Invited  
72. Oral  
73. Invited  
74. Oral  
75. Invited  
76. Oral  
77. Invited  
78. Oral  
79. Invited  
80. Oral  
81. Invited  
82. Oral  
83. Invited  
84. Oral  
85. Invited  
86. Oral  
87. Invited  
88. Oral  
89. Invited  
90. Oral  
91. Invited  
92. Oral  
93. Invited  
94. Oral  
95. Invited  
96. Oral  
97. Invited  
98. Oral  
99. Invited  
100. Oral  
101. Invited  
102. Oral  
103. Invited  
104. Oral  
105. Invited  
106. Oral  
107. Invited  
108. Oral  
109. Invited  
110. Oral  
111. Invited  
112. Oral  
113. Invited  
114. Oral  
115. Invited  
116. Oral  
117. Invited  
118. Oral  
119. Invited  
120. Oral  
121. Invited  
122. Oral  
123. Invited  
124. Oral  
125. Invited  
126. Oral  
127. Invited  
128. Oral  
129. Invited  
130. Oral  
131. Invited  
132. Oral  
133. Invited  
134. Oral  
135. Invited  
136. Oral  
137. Invited  
138. Oral  
139. Invited  
140. Oral  
141. Invited  
142. Oral  
143. Invited  
144. Oral  
145. Invited  
146. Oral  
147. Invited  
148. Oral  
149. Invited  
150. Oral  
151. Invited  
152. Oral  
153. Invited  
154. Oral  
155. Invited  
156. Oral  
157. Invited  
158. Oral  
159. Invited  
160. Oral  
161. Invited  
162. Oral  
163. Invited  
164. Oral  
165. Invited  
166. Oral  
167. Invited  
168. Oral  
169. Invited  
170. Oral  
171. Invited  
172. Oral  
173. Invited  
174. Oral  
175. Invited  
176. Oral  
177. Invited  
178. Oral  
179. Invited  
180. Oral  
181. Invited  
182. Oral  
183. Invited  
184. Oral  
185. Invited  
186. Oral  
187. Invited  
188. Oral  
189. Invited  
190. Oral  
191. Invited  
192. Oral  
193. Invited  
194. Oral  
195. Invited  
196. Oral  
197. Invited  
198. Oral  
199. Invited  
200. Oral  
201. Invited  
202. Oral  
203. Invited  
204. Oral  
205. Invited  
206. Oral  
207. Invited  
208. Oral  
209. Invited  
210. Oral  
211. Invited  
212. Oral  
213. Invited  
214. Oral  
215. Invited  
216. Oral  
217. Invited  
218. Oral  
219. Invited  
220. Oral  
221. Invited  
222. Oral  
223. Invited  
224. Oral  
225. Invited  
226. Oral  
227. Invited  
228. Oral  
229. Invited  
230. Oral  
231. Invited  
232. Oral  
233. Invited  
234. Oral  
235. Invited  
236. Oral  
237. Invited  
238. Oral  
239. Invited  
240. Oral  
241. Invited  
242. Oral  
243. Invited  
244. Oral  
245. Invited  
246. Oral  
247. Invited  
248. Oral  
249. Invited  
250. Oral  
251. Invited  
252. Oral  
253. Invited  
254. Oral  
255. Invited  
256. Oral  
257. Invited  
258. Oral  
259. Invited  
260. Oral  
261. Invited  
262. Oral  
263. Invited  
264. Oral  
265. Invited  
266. Oral  
267. Invited  
268. Oral  
269. Invited  
270. Oral  
271. Invited  
272. Oral  
273. Invited  
274. Oral  
275. Invited  
276. Oral  
277. Invited  
278. Oral  
279. Invited  
280. Oral  
281. Invited  
282. Oral  
283. Invited  
284. Oral  
285. Invited  
286. Oral  
287. Invited  
288. Oral  
289. Invited  
290. Oral  
291. Invited  
292. Oral  
293. Invited  
294. Oral  
295. Invited  
296. Oral  
297. Invited  
298. Oral  
299. Invited  
300. Oral  
301. Invited  
302. Oral  
303. Invited  
304. Oral  
305. Invited  
306. Oral  
307. Invited  
308. Oral  
309. Invited  
310. Oral  
311. Invited  
312. Oral  
313. Invited  
314. Oral  
315. Invited  
316. Oral  
317. Invited  
318. Oral  
319. Invited  
320. Oral  
321. Invited  
322. Oral  
323. Invited  
324. Oral  
325. Invited  
326. Oral  
327. Invited  
328. Oral  
329. Invited  
330. Oral  
331. Invited  
332. Oral  
333. Invited  
334. Oral  
335. Invited  
336. Oral  
337. Invited  
338. Oral  
339. Invited  
340. Oral  
341. Invited  
342. Oral  
343. Invited  
344. Oral  
345. Invited  
346. Oral  
347. Invited  
348. Oral  
349. Invited  
350. Oral  
351. Invited  
352. Oral  
353. Invited  
354. Oral  
355. Invited  
356. Oral  
357. Invited  
358. Oral  
359. Invited  
360. Oral  
361. Invited  
362. Oral  
363. Invited  
364. Oral  
365. Invited  
366. Oral  
367. Invited  
368. Oral  
369. Invited  
370. Oral  
371. Invited  
372. Oral  
373. Invited  
374. Oral  
375. Invited  
376. Oral  
377. Invited  
378. Oral  
379. Invited  
380. Oral  
381. Invited  
382. Oral  
383. Invited  
384. Oral  
385. Invited  
386. Oral  
387. Invited  
388. Oral  
389. Invited  
390. Oral  
391. Invited  
392. Oral  
393. Invited  
394. Oral  
395. Invited  
396. Oral  
397. Invited  
398. Oral  
399. Invited  
400. Oral  
401. Invited  
402. Oral  
403. Invited  
404. Oral  
405. Invited  
406. Oral  
407. Invited  
408. Oral  
409. Invited  
410. Oral  
411. Invited  
412. Oral  
413. Invited  
414. Oral  
415. Invited  
416. Oral  
417. Invited  
418. Oral  
419. Invited  
420. Oral  
421. Invited  
422. Oral  
423. Invited  
424. Oral  
425. Invited  
426. Oral  
427. Invited  
428. Oral  
429. Invited  
430. Oral  
431. Invited  
432. Oral  
433. Invited  
434. Oral  
435. Invited  
436. Oral  
437. Invited  
438. Oral  
439. Invited  
440. Oral  
441. Invited  
442. Oral  
443. Invited  
444. Oral  
445. Invited  
446. Oral  
447. Invited  
448. Oral  
449. Invited  
450. Oral  
451. Invited  
452. Oral  
453. Invited  
454. Oral  
455. Invited  
456. Oral  
457. Invited  
458. Oral  
459. Invited  
460. Oral  
461. Invited  
462. Oral  
463. Invited  
464. Oral  
465. Invited  
466. Oral  
467. Invited  
468. Oral  
469. Invited  
470. Oral  
471. Invited  
472. Oral  
473. Invited  
474. Oral  
475. Invited  
476. Oral  
477. Invited  
478. Oral  
479. Invited  
480. Oral  
481. Invited  
482. Oral  
483. Invited  
484. Oral  
485. Invited  
486. Oral  
487. Invited  
488. Oral  
489. Invited  
490. Oral  
491. Invited  
492. Oral  
493. Invited  
494. Oral  
495. Invited  
496. Oral  
497. Invited  
498. Oral  
499. Invited  
500. Oral  
501. Invited  
502. Oral  
503. Invited  
504. Oral  
505. Invited  
506. Oral  
507. Invited  
508. Oral  
509. Invited  
510. Oral  
511. Invited  
512. Oral  
513. Invited  
514. Oral  
515. Invited  
516. Oral  
517. Invited  
518. Oral  
519. Invited  
520. Oral  
521. Invited  
522. Oral  
523. Invited  
524. Oral  
525. Invited  
526. Oral  
527. Invited  
528. Oral  
529. Invited  
530. Oral  
531. Invited  
532. Oral  
533. Invited  
534. Oral  
535. Invited  
536. Oral  
537. Invited  
538. Oral  
539. Invited  
540. Oral  
541. Invited  
542. Oral  
543. Invited  
544. Oral  
545. Invited  
546. Oral  
547. Invited  
548. Oral  
549. Invited  
550. Oral  
551. Invited  
552. Oral  
553. Invited  
554. Oral  
555. Invited  
556. Oral  
557. Invited  
558. Oral  
559. Invited  
560. Oral  
561. Invited  
562. Oral  
563. Invited  
564. Oral  
565. Invited  
566. Oral  
567. Invited  
568. Oral  
569. Invited  
570. Oral  
571. Invited  
572. Oral  
573. Invited  
574. Oral  
575. Invited  
576. Oral  
577. Invited  
578. Oral  
579. Invited  
580. Oral  
581. Invited  
582. Oral  
583. Invited  
584. Oral  
585. Invited  
586. Oral  
587. Invited  
588. Oral  
589. Invited  
590. Oral  
591. Invited  
592. Oral  
593. Invited  
594. Oral  
595. Invited  
596. Oral  
597. Invited  
598. Oral  
599. Invited  
600. Oral  
601. Invited  
602. Oral  
603. Invited  
604. Oral  
605. Invited  
606. Oral  
607. Invited  
608. Oral  
609. Invited  
610. Oral  
611. Invited  
612. Oral  
613. Invited  
614. Oral  
615. Invited  
616. Oral  
617. Invited  
618. Oral  
619. Invited  
620. Oral  
621. Invited  
622. Oral  
623. Invited  
624. Oral  
625. Invited  
626. Oral  
627. Invited  
628. Oral  
629. Invited  
630. Oral  
631. Invited  
632. Oral  
633. Invited  
634. Oral  
635. Invited  
636. Oral  
637. Invited  
638. Oral  
639. Invited  
640. Oral  
641. Invited  
642. Oral  
643. Invited  
644. Oral  
645. Invited  
646. Oral  
647. Invited  
648. Oral  
649. Invited  
650. Oral  
651. Invited  
652. Oral  
653. Invited  
654. Oral  
655. Invited  
656. Oral  
657. Invited  
658. Oral  
659. Invited  
660. Oral  
661. Invited  
662. Oral  
663. Invited  
664. Oral  
665. Invited  
666. Oral  
667. Invited  
668. Oral  
669. Invited  
670. Oral  
671. Invited  
672. Oral  
673. Invited  
674. Oral  
675. Invited  
676. Oral  
677. Invited  
678. Oral  
679. Invited  
680. Oral  
681. Invited  
682. Oral  
683. Invited  
684. Oral  
685. Invited  
686. Oral  
687. Invited  
688. Oral  
689. Invited  
690. Oral  
691. Invited  
692. Oral  
693. Invited  
694. Oral  
695. Invited  
696. Oral  
697. Invited  
698. Oral  
699. Invited  
700. Oral  
701. Invited  
702. Oral  
703. Invited  
704. Oral  
705. Invited  
706. Oral  
707. Invited  
708. Oral  
709. Invited  
710. Oral  
711. Invited  
712. Oral  
713. Invited  
714. Oral  
715. Invited  
716. Oral  
717. Invited  
718. Oral  
719. Invited  
720. Oral  
721. Invited  
722. Oral  
723. Invited  
724. Oral  
725. Invited  
726. Oral  
727. Invited  
728. Oral  
729. Invited  
730. Oral  
731. Invited  
732. Oral  
733. Invited  
734. Oral  
735. Invited  
736. Oral  
737. Invited  
738. Oral  
739. Invited  
740. Oral  
741. Invited  
742. Oral  
743. Invited  
744. Oral  
745. Invited  
746. Oral  
747. Invited  
748. Oral  
749. Invited  
750. Oral  
751. Invited  
752. Oral  
753. Invited  
754. Oral  
755. Invited  
756. Oral  
757. Invited  
758. Oral  
759. Invited  
760. Oral  
761. Invited  
762. Oral  
763. Invited  
764. Oral  
765. Invited  
766. Oral  
767. Invited  
768. Oral  
769. Invited  
770. Oral  
771. Invited  
772. Oral  
773. Invited  
774. Oral  
775. Invited  
776. Oral  
777. Invited  
778. Oral  
779. Invited  
780. Oral  
781. Invited  
782. Oral  
783. Invited  
784. Oral  
785. Invited  
786. Oral  
787. Invited  
788. Oral  
789. Invited  
790. Oral  
791. Invited  
792. Oral  
793. Invited  
794. Oral  
795. Invited  
796. Oral  
797. Invited  
798. Oral  
799. Invited  
800. Oral  
801. Invited  
802. Oral  
803. Invited  
804. Oral  
805. Invited  
806. Oral  
807. Invited  
808. Oral  
809. Invited  
810. Oral  
811. Invited  
812. Oral  
813. Invited  
814. Oral  
815. Invited  
816. Oral  
817. Invited  
818. Oral  
819. Invited  
820. Oral  
821. Invited  
822. Oral  
823. Invited  
824. Oral  
825. Invited  
826. Oral  
827. Invited  
828. Oral  
829. Invited  
830. Oral  
831. Invited  
832. Oral  
833. Invited  
834. Oral  
835. Invited  
836. Oral  
837. Invited  
838. Oral  
839. Invited  
840. Oral  
841. Invited  
842. Oral  
843. Invited  
844. Oral  
845. Invited  
846. Oral  
847. Invited  
848. Oral  
849. Invited  
850. Oral  
851. Invited  
852. Oral  
853. Invited  
854. Oral  
855. Invited  
856. Oral  
857. Invited  
858. Oral  
859. Invited  
860. Oral  
861. Invited  
862. Oral  
863. Invited  
864. Oral  
865. Invited  
866. Oral  
867. Invited  
868. Oral  
869. Invited  
870. Oral  
871. Invited  
872. Oral  
873. Invited  
874. Oral  
875. Invited  
876. Oral  
877. Invited  
878. Oral  
879. Invited  
880. Oral  
881. Invited  
882. Oral  
883. Invited  
884. Oral  
885. Invited  
886. Oral  
887. Invited  
888. Oral  
889. Invited  
890. Oral  
891. Invited  
892. Oral  
893. Invited  
894. Oral  
895. Invited  
896. Oral  
897. Invited  
898. Oral  
899. Invited  
900. Oral  
901. Invited  
902. Oral  
903. Invited  
904. Oral  
905. Invited  
906. Oral  
907. Invited  
908. Oral  
909. Invited  
910. Oral  
911. Invited  
912. Oral  
913. Invited  
914. Oral  
915. Invited  
916. Oral  
917. Invited  
918. Oral  
919. Invited  
920. Oral  
921. Invited  
922. Oral  
923. Invited  
924. Oral  
925. Invited  
926. Oral  
927. Invited  
928. Oral  
929. Invited  
930. Oral  
931. Invited  
932. Oral  
933. Invited  
934. Oral  
935. Invited  
936. Oral  
937. Invited  
938. Oral  
939. Invited  
940. Oral  
941. Invited  
942. Oral  
943. Invited  
944. Oral  
945. Invited  
946. Oral  
947. Invited  
948. Oral  
949. Invited  
950. Oral  
951. Invited  
952. Oral  
953. Invited  
954. Oral  
955. Invited  
956. Oral  
957. Invited  
958. Oral  
959. Invited  
960. Oral  
961. Invited  
962. Oral  
963. Invited  
964. Oral  
965. Invited  
966. Oral  
967. Invited  
968. Oral  
969. Invited  
970. Oral  
971. Invited  
972. Oral  
973. Invited  
974. Oral  
975. Invited  
976. Oral  
977. Invited  
978. Oral  
979. Invited  
980. Oral  
981. Invited  
982. Oral  
983. Invited  
984. Oral  
985. Invited  
986. Oral  
987. Invited  
988. Oral  
989. Invited  
990. Oral  
991. Invited  
992. Oral  
993. Invited  
994. Oral  
995. Invited  
996. Oral  
997. Invited  
998. Oral  
999. Invited  
1000. Oral

fel 06  
BERLIN

Aug 27 - Sep 01 2006

Telekom Conference Venue Berlin

Organized by BESSY & FZ Rossendorf

<http://fel2006.bessy.de>



[Programme Committee](#)

[Local Organizing Committee](#)

[Table of Sessions](#)

[Authors Index](#)

[List of Institutes](#)

[List of Participants](#)

[Abstract Booklet](#)  
complete Abstract Booklet [3MB]

[All Papers / Single File](#)  
812 pages [80 MB]

[Mon, Tue, Thu, Fri Sections](#)  
251, 248, 285, 28 p [27, 20, 30, 2 MB]



September 2006 The BESSY FEL Conference Team Skripts: Volker RW Schaa, GSI

# PDF Files Banner and Footer

MOPE001

Proceedings of IPAC'10, Kyoto, Japan

## A TANK CIRCUIT MONITORING A LARGE NUMBER OF ANTIPROTONS IN MUSASHI \*

H. Higaki, N. Kuroda<sup>1</sup>, H. Imao<sup>2</sup>, Y. Nagata<sup>1</sup>, Y. Enomoto<sup>1</sup>, K. Michishio<sup>3</sup>, K. Kira, C.H. Kim<sup>1</sup>, H. Okamoto, M. Hori<sup>4</sup>, Y. Kanai<sup>2</sup>, A. Mohri<sup>2</sup>, H.A. Torii<sup>1</sup>, Y. Matsuda<sup>1</sup> and Y. Yamazaki<sup>1,2</sup>  
AdSM, Hiroshima Univ., 1-3-1 Kagamiyama, Higashi-Hiroshima, Hiroshima 739-8530, Japan

long uniform magnetic field  $B$  in  $z$  direction, the Hamiltonian  $H_{sol}$  of a test particle, which describes the motion in

---

\* This work is partly supported by the Grant-in-Aid for Specially Promoted Research (19002004) from the Ministry of Education, Culture, Sports, Science and Technology

$\epsilon_0 B^2 / 2m$ . Also, the bare tune  $\sigma_0$ , space-charge depressed tune  $\sigma$ , and the tune depression of the solenoid system are described as below.

$$\sigma_0 = \frac{eB}{2mc}, \quad \sigma = \sqrt{K_3 - \frac{K_s}{a^2}}, \quad \eta = \frac{\sigma}{\sigma_0} = \sqrt{1 - \frac{n}{n_{lim}}}$$

948

06 Beam Instrumentation and Feedback

T03 Beam Diagnostics and Instrumentation

# PDF Files Hidden Fields

The image shows a 'Document Properties' dialog box with several tabs: Description, Security, Fonts, Initial View, Custom, and Advanced. The 'Description' tab is active, displaying the following information:

- File: mope001.pdf
- Title: A Tank Circuit Monitoring a Large Number of Antiprotons in MUSASHI
- Author: H. Higaki, HU/AdSM, Higashi-Hiroshima; Y. Enomoto, The University of Tokyo, Institute of Ph
- Subject: 06 Beam Instrumentation and Feedback/T03 Beam Diagnostics and Instrumentation
- Keywords: "electron, antiproton, rfq, plasma, resonance"
- Created: 17/06/2010 13:53:44
- Modified: 17/06/2010 13:53:44
- Application: LaTeX with hyperref package

An 'Additional Metadata...' button is located to the right of the 'Created' and 'Modified' fields. Below the 'Description' section is the 'Advanced' section, which contains the following information:

- PDF Producer: pdfTeX-1.40.10
- PDF Version: 1.6 (Acrobat 7.x)
- Location: C:\Users\John\Desktop\
- File Size: 591.19 KB (605,378 Bytes)
- Page Size: 8.23 x 10.96 in
- Number of Pages: 3
- Tagged PDF: No
- Fast Web View: No

At the bottom of the dialog box are buttons for 'Help', 'OK', and 'Cancel'.

# JPSP Mechanism

- The scripts use XML data which has been dumped from the SPMS or InDiCo.
- The final output from JPSP is prepared by running a small number of perl scripts and batch processes.
- The scripts include several quality control and diagnostic processes leading to a guaranteed result.
- The final products only require a minimum of customisation and tuning before publication.

# Typical JPSP Website Production

- The papers are analysed and compared against a standard set of keywords in order to assign keywords to each paper. Historically authors were asked to do this but ...
- The scripts prepare the author, session, institute and keyword indices and build the links to all of the files (papers, transparencies, audio, etc.)
- The number of files produced is about ten times the number of contributions.

# The Future of JACoW

- From a technical point of view, the long term prospects for JACoW look solid.
- The repository uses a standard commercial product (Oracle) and the tools are based on a standard scripting language and web interfaces. Migration to future products and platforms should not be difficult even if standard paths are not provided.

# Long Term Archival

- As stated on the JACoW site:
  - The system is set up in such a way that it is not dependant on any particular person, platform or institute.
  - We regard PDF as a storage format which will be stable in the relatively long-term.
  - If PDF should disappear in the future, it will not be sudden and there will certainly be a migration path to its replacement.
  - JACoW would migrate to the new system and in the worst of all cases if this was not possible, JACoW has tools which can assemble the papers into volumes which can be printed.

# Preparations for the Future

- The current specification for JACoW files is compliant with PDF/X-3 which means that they conform to certain ISO standards.
- This, in turn, means that they facilitate graphics and printing exchanges and therefore are suitable for migration to other standards.

# Support for JACoW

- JACoW survives through the good will and enthusiasm of the team members and through support from several labs around the world.
- In addition to the provision of hardware, IT infrastructure and services, some labs are allowing people to devote time to JACoW activities.
- JACoW owns some licenses for software used for paper processing. This has been financed on an ad hoc basis by labs and conferences.

# Special Thanks to (listed alphabetically)...

- **CERN**
  - Hosting and support for JACoW and the search engine
  - Hosting the repository and SPMS European support centre
  - Christine Petit-Jean-Genaz's and Ronny Billen's time
- **Fermilab**
  - Hosting N. American support centre
  - M. Arena's time
- **GSI**
  - Volker Schaa (100%) and Raphael Mueller (20%)
- **KEK**
  - Asian support, support centre and mirror site

# And thanks also to ...

- ANL, DESY, ELETTRA, MSI, PSI, TRIUMF for continued support of travel and activities of team members.

# JACoW in 2015 and beyond

- There are not many accelerator conference series which are not already members, so there will probably not be any large expansion.
  - Perhaps Magnet Technology is the only large conference missing from the collaboration.
- There is agreement in principle for the publication of some other material like legacy accelerator journals and this could be a major new direction in the near future.
- A number of conference series are working towards publication of legacy proceedings (scanning).

## ... 2015 and Beyond

- SPMS is already well established as a tool for accelerator conferences and will certainly continue to be so in the years to come. Its development is a continuing process which is regularly reviewed.
- Because software is continuously evolving, technical developments in JACoW will have to continue in order to keep pace with the new versions of existing programs and the new tools used by authors and editors alike.

# Concluding Remarks 1/3

- There is much more to JACoW than the website.
  - SPMS, JPSP, author and editor education, conference support ...
- Our aim is to provide a reliable and efficient service to the accelerator community.
- There is a continuous effort to improve
  - At and after every conference there is a lot of analysis of problems, development of solutions and feedback to authors.
  - Repository maintenance, new tools etc.

# Concluding Remarks 2/3

- It is a collaboration in every sense of the word and it works (and hopefully will continue to do so).
- We invest heavily in training for conference editorial staff so that they can fully integrate in the JACoW community and benefit from our experience.
- We are conscious of the need to bring the team together to share experience and to agree on the path forward. That is why we are here at the moment – the annual team meeting is our means to achieve this goal.

# Concluding Remarks 3/3

- JACoW relies heavily on a relatively small number of very dedicated people.
- The arrival of new (young) faces always brings fresh ideas and new techniques which constantly improve the service provided.
- JACoW needs this turnover of team members to ensure success in the future.
- More than ever JACoW needs the support of the labs and their support for the team members.