LINAC08 & PAC09

LINAC08:

29 September – 3 October 2008

Victoria, British Columbia, Canada

Fairmont Empress Hotel & Victoria Conference Centre

www.triumf.ca/linac08

appora.fnal.gov/pls/linac08/profile.html

PAC09:

4 – 9 May 2009

Vancouver, British Columbia, Canada

Fairmont Hotel Vancouver & Hyatt Regency Vancouver

www.triumf.ca/pac09

appora.fnal.gov/pls/pac09/profile.html

Statistics

- 353 participants
- 23 students
- 28 industrial exhibits

- 48 invited orals (30/20 minutes) no parallel sessions
- 36 contributed orals (5 minutes) but not CO in SPMS
- 333 posters
- (615 abstracts in SPMS)

- 23 student poster session papers on Sunday

Statistics

- 1309 participants
- 147 students
- 74 industrial exhibits
- 117 invited orals
- 84 contributed orals
- 1710→1625 posters
- (2756 abstracts in SPMS)
- 23 satellite meetings

First PC Meeting

- First meeting 24-25/01/2008
- Selected 46 invited orals based upon 176 proposals (mostly) submitted via SPMS.
- Meeting conducted mainly with reference to an Excel spreadsheet containing (old) data extracted from SPMS.
- Verified data late first night following PC dinner.
- Two slots left open. One for late breaking topic/regional balance, the other for the student poster session winner.

Second PC Meeting

- Friday, 13/06/2008!
- Not many PC members could attend due to other meetings and EPAC08.
- Again an Excel spreadsheet prepared and sent to all PC members to allow non-attendees to vote.
- Totally up-to-date SPMS spreadsheets and abstract listings available at the meeting.
- Very fast convergence selecting the 36 Contributed Oral 5 minute talks – 5 hours including lunch.
- Everyone sat around 3 tables in the same room.

SPC First Meeting

- First meeting was held one year before the conference.
- Held in St. Louis, MO on 11/04/08.
- 67 SPC members present.
- 455 proposals, most entered into SPMS by members.
- Revised Main and Sub-Classification scheme with almost unique pairings.
- 16 Main Classifications and therefore groups at meeting.
- Deliberated for 6 hours and chose 113 Invited Orals.
- Used SPMS exclusively.
- Did not achieve a perfect demographic spread at the meeting.
- Fine tuning for two months afterwards via e-mail.
- The meeting was too short.

SPC Second Meeting

- Second meeting was held 3.5 months before conference.
- Held in Vancouver on Friday 16/01/09 for the full committee, and until lunchtime Saturday for the 16 session chairs in order to achieve a demographic balance.
- 82 Contributed Orals were selected from 2043 abstracts.
- Revised programme approved that rebalanced some of the main classifications based upon the number of abstracts received.
- Conference would schedule 30 minutes at the end of both morning and afternoon sessions without orals to allow all delegates to attend the poster sessions.
- Totally conducted via SPMS using Priorities and then created CO-1, CO-2, CO-3 overnight to aid final balancing.
- Need for total SPMS lockout to the outside world.

IPAC Philosophy

PAC09 Contribution Counts by Region

#	Region	Invited Oral		Contributed Oral		Poster		Total	
1	North America	66	56.90%	38	45.24%	730	46.47%	834	47.09%
2	Europe	31	26.72%	28	33.33%	524	33.35%	583	32.92%
3	Asia	19	16.38%	15	17.86%	281	17.89%	315	17.79%
4	South America	0	0.00%	2	2.38%	18	1.15%	20	1.13%
5	Middle East	0	0.00%	1	1.19%	13	0.83%	14	0.79%
6	Australia	0	0.00%	0	0.00%	5	0.32%	5	0.28%
Total Contributions		116	6.55%	84	4.74%	1571	88.71%	1771	

Proceedings Office

- Daylight, even a balcony, but poor weather!
- Manpower (a few 0.5 FTE):
  - 13 editors
  - 1 DBA
  - 7 paper reception
  - 2 speaker interface
  - 2 transparencies
  - 2 IT + IEEE
- Apple Canada a sponsor, Proceedings Office Mac dominated.
- Orientation for PAC11 and IPAC12.
- IEEE in charge of Internet Café and AV.

Processing Brief Summary

- 1766 contributions / 1600 papers
- 4900+ unique authors
- 525+ institutions
- Initial paper status: Green: 43% Yellow: 49% Red: 8%
- Platform: PC: 74% Mac: 15% UNIX: 11%

- Linux fileserver @ TRIUMF, 36 GB used, RAID + triple backup
- Editors 4 GB
- JPSP runs 22 GB, 80,000 files
- Mac backup 34 GB

Running JPSP Scripts

- JPSP scripts SCS2009-2; SCS2009-3_v10_6; SCS2009-3_v10_7 were challenged by PAC09!
- JPSP SCS2009-5_v10_9_2 works
  - 4.6 GB, 7346 files, without any talks or photos!
  - proceed.pdf = 1.8 GB
  - proceed1.pdf = 951 MB

Yellow to Green Dot

- LINAC08 65% initial Yellow dot.
- PAC09 49% initial Yellow dot.
- Papers assigned a Yellow dot are sent the following automatic SPMS e-mail:
  WEP085 has been processed by the Proceedings Office and assigned a YELLOW DOT. Please log into your SPMS account to review the comments in the "History" field which outline the changes made by the editor. The editor would like you to proofread the new version in order to ensure the integrity of the paper. You should download the new PDF file, review it, and reply to this e-mail approving the changes if everything is correct - in which case your paper will be assigned a green dot.
- Instead of processing 800 e-mails, or having 800 visitors at Paper Reception, could SPMS be modified to:
  - Add a link to the abstract allowing the author to indicate that the edited paper is approved and can be changed to a Green dot.
  - Create a new page showing the pending Yellow to Green dot papers.
  - Have a link next to each one taking you to Sort/File/Edit allowing you to change it to a Green dot.

Speaker Biographies

- This is an extremely time consuming exercise at the worst possible time during the conference.
- I would like to propose a new SPMS functionality that allows speakers to enter their biography into a text box (identical to abstract text submission). This would have multiple advantages:
  - Forces the speaker to enter plain text rather than submitting a 5 page PDF or .doc file containing their life history.
  - Automatically imposes a character limit.
- This data should then be made available to the conference session chair (NOTE: this is not the SPC session chair) via a new privilege that gives them access to a listing for their session.
  - Produce a simple page showing the Paper ID, Title, Authors, Abstract and Biography for each paper in the session.
- In the E-mail utility, ability to send e-mail to speakers who have not submitted a biography.

PDF File Size Inflation

LINAC08 now triple the size compared to last year's scripts.

Still being investigated.

Allocating Poster Paper IDs

- PAC09 pushed SPMS to the limit
- Lock out authors

Final QA

- Many instances discovered where the use of Acrobat and/or PitStop corrupted a paper.
- Due to zooming in to edit a PDF file, one is blind to text and objects moving elsewhere on the page.
- Text corrupted and moved.
- Figure overprint labelling (gruesome) corrupted and moved.
- Even more serious – one example found (after running JPSP scripts, third fresh set of eyes) where moving Fig. 3 on page 3 corrupted text on page 1!

LINAC08 PitStop Corruption

with different cathode configurations and emission processes (pulsed field emission and photo emission). In the first stage, the beamline consists of focusing solenoids followed by an emittance monitor. Selected beam characterization measurements from photo cathode operation driven by a 266 nm UV laser system delivering 4 μJ energy during 6.5 ps (RMS) are presented and compared to the results of 3D particle tracking simulations.

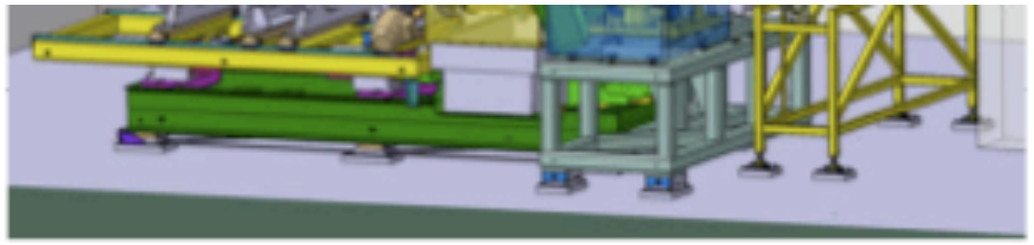

Figure 1: Schematic view of pulser (left) and diagnostic beamline, including the emittance monitor (right).

INTRODUCTION AND MOTIVATION

The goal of the PSI-XFEL project is the realization of an X-ray Free Electron Laser (FEL) operating in the wavelength range between 1 and 100 Å and producing up to 10^{12} photons per pulse at a repetition rate of 100 Hz. To keep spatial and financial requirements within reasonable limits, the project foresees a compact design featuring a 6 GeV S-band main linac. This compact layout requires a high-brightness electron beam, which in turn calls for a low-emittance source. The strategy chosen for the PSI-XFEL project consists in utilizing a high-voltage pulsed diode providing fast acceleration with a special cathode optimized for low emittance (photo cathode or field emitter array). To evaluate various configurations and materials, a test stand has been set up at PSI consisting of a pulser, a laser system and a diagnostic beamline [1]. Figure 1 gives an overview of the pulser and beamline assembly.

An important aspect of the test facility, in particular in

EXPERIMENTAL SETUP

The air-core transformer-based high-voltage pulser delivers pulses of 250 ns (FWHM) with amplitude up to 500 kV [2]. The diode gap between two mirror-polished electrodes is adjustable between 0 and 30 mm. Electrodes manufactured from stainless steel have been found to withstand the highest gradients and generally to offer the most stable experimental conditions for beam measurements. The measurements described here were performed with hand-polished stainless steel electrodes separated by 7 mm at a voltage of 313 kV, corresponding to a gradient of 44.7 MV/m. The chosen gradient represents a compromise between high accelerating field and stable operation with this particular set of electrodes.

The metallic cathode is illuminated by laser pulses when the applied voltage across the anode-cathode gap is at maximum. The laser light enters the electron beamline from a side viewport and is reflected towards the cathode by a 5 mm × 5 mm mirror. The mirror edge is at least 5 mm away from the electron beam axis. The laser pulses, generated by a Nd:vanadate (Nd:VAN) passively mode locked

Personal Recommendation

- If you have the source files, it is far safer, easier and arguably quicker to go back to the source, make the changes, create good PostScript, distill, and process.
- Some of the corruptions are so subtle that even diligent editors performing Final QA at the conference are unable to spot the problems.
- Likewise, authors checking the new PDF file on a laptop screen are even more unlikely to spot the corruption.

Final QA Protocol

- If any editing is required, even if "just a quick and easy fix in PitStop", use Fail QA and assign paper to me.
- Then go through Final QA again by another editor.
- This has caught numerous errors for both LINAC08 and PAC09.

Talk PDF File Download

- As explained yesterday, talk PDF files uploaded with lower or mixed case cannot be downloaded from SPMS.
- Thanks to Ivan, that problem will not reoccur at future conferences once the new Perl scripts are installed.
- This problem was exacerbated for LINAC08 as the "Contributed Oral" papers are really Poster papers.
- This was complicated even further by many speakers wanting to submit revised versions.
- Others denied permission to publish.
- Yet others never responded to repeated e-mails requesting permission to publish, so dummy PDF files were created containing the abstract, as for missing papers.

Conversion of Talks to PDF

- Many examples discovered where the transitions were not handled correctly by the Capture Show plugin.
- A scan through the original PowerPoint revealed numerous missing views.
- Solution:
  - Change Capture Show settings from default to semi-automatic mode.
  - Rerun and create document with a large number of pages.
  - Use Acrobat to delete unwanted partial build pages.
  - Worst case: 18 page talk => 205 page PDF => 37 page PDF.
- Note: Apple Keynote handles PC generated PowerPoint file transitions flawlessly, but cannot display private Microsoft fonts correctly.

Co-Authors

The job of comparing the author lists on the papers against SPMS and then adding/subtracting authors and creating new profiles is extremely time consuming.