ICFA ABDW #49

ECloud 2010

Karl Smolenski

Mark Palmer – Workshop Chair

Cornell University

ecloud 10

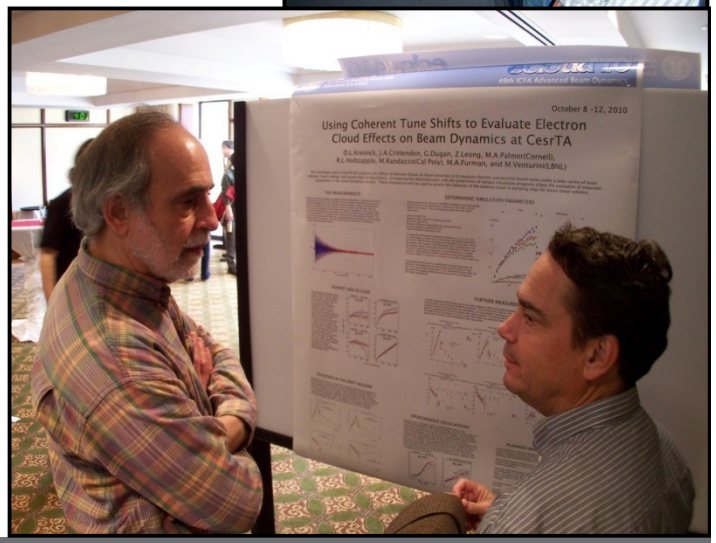
- Electron Cloud 2010
- CERN 02 – Calif. 04 – Korea 07- ***Cornell 10*** – ??? 2013

By the numbers

- 59 - Registrants
- 4 - Hour long review tutorials
- 34 - Plenary talks
- 6 - Summary talks
- 13 - Posters

"Standard" Workshop

- Welcome reception
- Facility tours
- Boat / Sightseeing trip
- Banquet / evening speaker



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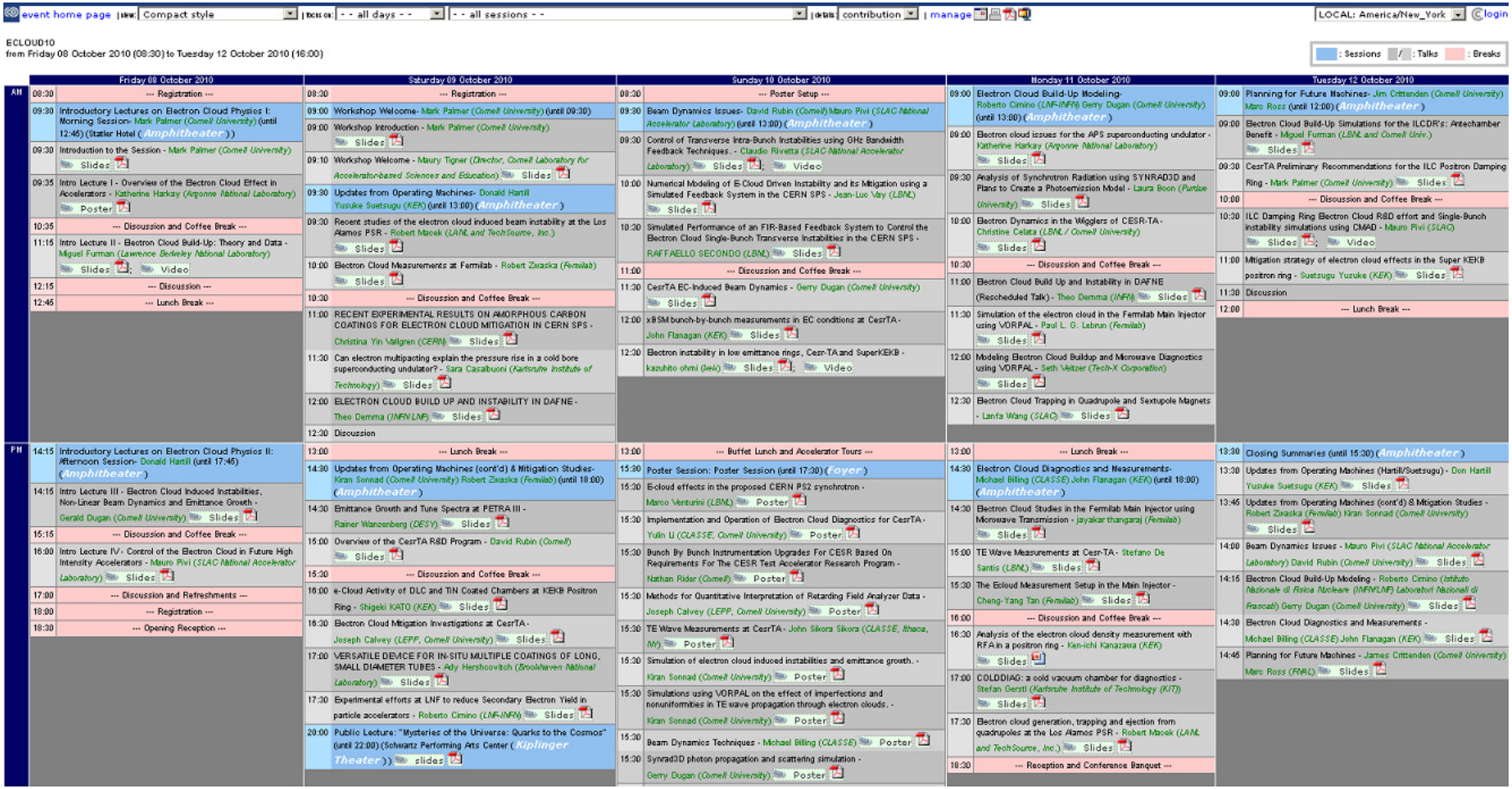
Indico

- Indico used for all registration, abstracts, scheduling, presentations, and as repository of files
- Local Indico instance (ver 0.96)
- No paper meeting - no printed schedules, abstract booklets, paper proceedings – No CD / USB

- Proliferation of videos – *Beam Dynamics* – but have no plans to archive



event home page | view: Compact style | tracks: - - all days - - | - - all sessions - - | details: contribution | manage | LOCAL: America/New_York | login

ECLOUD10
from Friday 08 October 2010 (08:30) to Tuesday 12 October 2010 (16:00)

: Sessions : Talks : Breaks

Friday 08 October 2010

AM
- 08:30 --- Registration ---
- 09:30 Introductory Lectures on Electron Cloud Physics I: Morning Session- Mark Palmer (*Cornell University*) (until 12:45) (Statler Hotel (*Amphitheater*))
- 09:30 Introduction to the Session - Mark Palmer (*Cornell University*) Slides
- 09:35 Intro Lecture I - Overview of the Electron Cloud Effect in Accelerators - Katherine Harkay (*Argonne National Laboratory*) Poster
- 10:35 --- Discussion and Coffee Break ---
- 11:15 Intro Lecture II - Electron Cloud Build-Up: Theory and Data - Miguel Furman (*Lawrence Berkeley National Laboratory*) Slides; Video
- 12:15 --- Discussion ---
- 12:45 --- Lunch Break ---

PM
- 14:15 Introductory Lectures on Electron Cloud Physics II: Afternoon Session- Donald Hartill (until 17:45) (*Amphitheater*)
- 14:15 Intro Lecture III - Electron Cloud Induced Instabilities, Non-Linear Beam Dynamics and Emittance Growth - Gerald Dugan (*Cornell University*) Slides
- 15:15 --- Discussion and Coffee Break ---
- 16:00 Intro Lecture IV - Control of the Electron Cloud in Future High Intensity Accelerators - Mauro Pivi (*SLAC National Accelerator Laboratory*) Slides
- 17:00 --- Discussion and Refreshments ---
- 18:00 --- Registration ---
- 18:30 --- Opening Reception ---

Saturday 09 October 2010

AM
- 08:30 --- Registration ---
- 09:00 Workshop Welcome- Mark Palmer (*Cornell University*) (until 09:30)
- 09:00 Workshop Introduction - Mark Palmer (*Cornell University*) Slides
- 09:10 Workshop Welcome - Maury Tigner (*Director, Cornell Laboratory for Accelerator-based Sciences and Education*) Slides
- 09:30 Updates from Operating Machines- Donald Hartill Yusuke Suetsugu (*KEK*) (until 13:00) (*Amphitheater*)
- 09:30 Recent studies of the electron cloud induced beam instability at the Los Alamos PSR - Robert Macek (*LANL and TechSource, Inc.*) Slides
- 10:00 Electron Cloud Measurements at Fermilab - Robert Zwaska (*Fermilab*) Slides
- 10:30 --- Discussion and Coffee Break ---
- 11:00 RECENT EXPERIMENTAL RESULTS ON AMORPHOUS CARBON COATINGS FOR ELECTRON CLOUD MITIGATION IN CERN SPS - Christina Yin Vallgren (*CERN*) Slides
- 11:30 Can electron multipacting explain the pressure rise in a cold bore superconducting undulator? - Sara Casalbuoni (*Karlsruhe Institute of Technology*) Slides
- 12:00 ELECTRON CLOUD BUILD UP AND INSTABILITY IN DAFNE - Theo Demma (*INFN/LNF*) Slides
- 12:30 Discussion

PM
- 13:00 --- Lunch Break ---
- 14:30 Updates from Operating Machines (cont'd) & Mitigation Studies- Kiran Sonnad (*Cornell University*) Robert Zwaska (*Fermilab*) (until 18:00) (*Amphitheater*)
- 14:30 Emittance Growth and Tune Spectra at PETRA III - Rainer Wanzenberg (*DESY*) Slides
- 15:00 Overview of the CesrTA R&D Program - David Rubin (*Cornell*) Slides
- 15:30 --- Discussion and Coffee Break ---
- 16:00 e-Cloud Activity of DLC and TiN Coated Chambers at KEKB Positron Ring - Shigeki KATO (*KEK*) Slides
- 16:30 Electron Cloud Mitigation Investigations at CesrTA - Joseph Calvey (*LEPP, Cornell University*) Slides
- 17:00 VERSATILE DEVICE FOR IN-SITU MULTIPLE COATINGS OF LONG, SMALL DIAMETER TUBES - Ady Hershcovitch (*Brookhaven National Laboratory*) Slides
- 17:30 Experimental efforts at LNF to reduce Secondary Electron Yield in particle accelerators - Roberto Cimino (*LNF-INFN*) Slides
- 20:00 Public Lecture: "Mysteries of the Universe: Quarks to the Cosmos" (until 22:00) (Schwartz Performing Arts Center (*Kiplinger Theater*)) slides

Sunday 10 October 2010

AM
- 08:30 --- Poster Setup ---
- 09:30 Beam Dynamics Issues- David Rubin (*Cornell*) Mauro Pivi (*SLAC National Accelerator Laboratory*) (until 13:00) (*Amphitheater*)
- 09:30 Control of Transverse Intra-Bunch Instabilities using GHz Bandwidth Feedback Techniques. - Claudio Rivetta (*SLAC National Accelerator Laboratory*) Slides; Video
- 10:00 Numerical Modeling of E-Cloud Driven Instability and its Mitigation using a Simulated Feedback System in the CERN SPS - Jean-Luc Vay (*LBNL*) Slides
- 10:30 Simulated Performance of an FIR-Based Feedback System to Control the Electron Cloud Single-Bunch Transverse Instabilities in the CERN SPS - RAFFAELLO SECONDO (*LBNL*) Slides
- 11:00 --- Discussion and Coffee Break ---
- 11:30 CesrTA EC-Induced Beam Dynamics - Gerry Dugan (*Cornell University*) Slides
- 12:00 xBSM bunch-by-bunch measurements in EC conditions at CesrTA - John Flanagan (*KEK*) Slides
- 12:30 Electron instability in low emittance rings, Cesr-TA and SuperKEKB - kazuhito ohmi (*kek*) Slides; Video

PM
- 13:00 --- Buffet Lunch and Accelerator Tours ---
- 15:30 Poster Session: Poster Session (until 17:30) (*Foyer*)
- 15:30 E-cloud effects in the proposed CERN PS2 synchrotron - Marco Venturini (*LBNL*) Poster
- 15:30 Implementation and Operation of Electron Cloud Diagnostics for CesrTA - Yulin Li (*CLASSE, Cornell University*) Poster
- 15:30 Bunch By Bunch Instrumentation Upgrades For CESR Based On Requirements For The CESR Test Accelerator Research Program - Nathan Rider (*Cornell*) Poster
- 15:30 Methods for Quantitative Interpretation of Retarding Field Analyzer Data - Joseph Calvey (*LEPP, Cornell University*) Poster
- 15:30 TE Wave Measurements at CesrTA - John Sikora Sikora (*CLASSE, Ithaca, NY*) Poster
- 15:30 Simulation of electron cloud induced instabilities and emittance growth. - Kiran Sonnad (*Cornell University*) Poster
- 15:30 Simulations using VORPAL on the effect of imperfections and nonuniformities in TE wave propagation through electron clouds. - Kiran Sonnad (*Cornell University*) Poster
- 15:30 Beam Dynamics Techniques - Michael Billing (*CLASSE*) Poster
- 15:30 Synrad3D photon propagation and scattering simulation - Gerry Dugan (*Cornell University*) Poster

Monday 11 October 2010

AM
- 09:00 Electron Cloud Build-Up Modeling- Roberto Cimino (*LNF-INFN*) Gerry Dugan (*Cornell University*) (until 13:00) (*Amphitheater*)
- 09:00 Electron cloud issues for the APS superconducting undulator - Katherine Harkay (*Argonne National Laboratory*) Slides
- 09:30 Analysis of Synchrotron Radiation using SYNRAD3D and Plans to Create a Photoemission Model - Laura Boon (*Purdue University*) Slides
- 10:00 Electron Dynamics in the Wigglers of CESR-TA - Christine Celata (*LBNL / Cornell University*) Slides
- 10:30 --- Discussion and Coffee Break ---
- 11:00 Electron Cloud Build Up and Instability in DAFNE (Rescheduled Talk) - Theo Demma (*INFN*) Slides
- 11:30 Simulation of the electron cloud in the Fermilab Main Injector using VORPAL - Paul L. G. Lebrun (*Fermilab*) Slides
- 12:00 Modeling Electron Cloud Buildup and Microwave Diagnostics using VORPAL - Seth Veitzer (*Tech-X Corporation*) Slides
- 12:30 Electron Cloud Trapping in Quadrupole and Sextupole Magnets - Lanfa Wang (*SLAC*) Slides

PM
- 13:00 --- Lunch Break ---
- 14:30 Electron Cloud Diagnostics and Measurements- Michael Billing (*CLASSE*) John Flanagan (*KEK*) (until 18:00) (*Amphitheater*)
- 14:30 Electron Cloud Studies in the Fermilab Main Injector using Microwave Transmission - jayakar thangaraj (*Fermilab*) Slides
- 15:00 TE Wave Measurements at Cesr-TA - Stefano De Santis (*LBNL*) Slides
- 15:30 The Ecloud Measurement Setup in the Main Injector - Cheng-Yang Tan (*Fermilab*) Slides
- 16:00 --- Discussion and Coffee Break ---
- 16:30 Analysis of the electron cloud density measurement with RFA in a positron ring - Ken-ichi Kanazawa (*KEK*) Slides
- 17:00 COLDDIAG: a cold vacuum chamber for diagnostics - Stefan Gerstl (*Karlsruhe Institute of Technology (KIT)*) Slides
- 17:30 Electron cloud generation, trapping and ejection from quadrupoles at the Los Alamos PSR - Robert Macek (*LANL and TechSource, Inc.*) Slides
- 18:30 --- Reception and Conference Banquet ---

Tuesday 12 October 2010

AM
- 09:00 Planning for Future Machines- Jim Crittenden (*Cornell University*) Marc Ross (until 12:00) (*Amphitheater*)
- 09:00 Electron Cloud Build-Up Simulations for the ILCDR's: Antechamber Benefit - Miguel Furman (*LBNL and Cornell Univ.*) Slides
- 09:30 CesrTA Preliminary Recommendations for the ILC Positron Damping Ring - Mark Palmer (*Cornell University*) Slides
- 10:00 --- Discussion and Coffee Break ---
- 10:30 ILC Damping Ring Electron Cloud R&D effort and Single-Bunch instability simulations using CMAD - Mauro Pivi (*SLAC*) Slides; Video
- 11:00 Mitigation strategy of electron cloud effects in the Super KEKB positron ring - Suetsugu Yusuke (*KEK*) Slides
- 11:30 Discussion
- 12:00 --- Lunch Break ---

PM
- 13:30 Closing Summaries (until 15:30) (*Amphitheater*)
- 13:30 Updates from Operating Machines (Hartill/Suetsugu) - Don Hartill Yusuke Suetsugu (*KEK*) Slides
- 13:45 Updates from Operating Machines (cont'd) & Mitigation Studies - Robert Zwaska (*Fermilab*) Kiran Sonnad (*Cornell University*) Slides
- 14:00 Beam Dynamics Issues - Mauro Pivi (*SLAC National Accelerator Laboratory*) David Rubin (*Cornell University*) Slides
- 14:15 Electron Cloud Build-Up Modeling - Roberto Cimino (*Istituto Nazionale di Fisica Nucleare (INFN/LNF) Laboratori Nazionali di Frascati*) Gerry Dugan (*Cornell University*) Slides
- 14:30 Electron Cloud Diagnostics and Measurements - Michael Billing (*CLASSE*) John Flanagan (*KEK*) Slides
- 14:45 Planning for Future Machines - James Crittenden (*Cornell University*) Marc Ross (*FNAL*) Slides

Proceedings

- All presentations and posters captured during event
- Participants have Dec. 15th deadline for paper submission. Starting to exert pressure via reminders.
- Tutorials and summaries will not have papers.
- Past meetings:

  2002 - all papers online at CERN, 10 PRST-AB

  2004 - one summary paper AIP

  2007 - presentations only online at host institute.

Dear ECloud 2010 Contributor-

Thank you for making the recent ECloud 2010 workshop a success. The tutorials, talks, posters, and informal discussions all played a part in making this meeting a fruitful and productive one for all taking part. Now by contributing a short paper on your work your effort can be accessed by the larger worldwide accelerator community. The proceedings for ECloud 2010 will be published online at the JACoW.org archive. All presentations and posters, which we've already collected, will be stored there and we strongly encourage you to contribute a paper to complement the presentations. We would like to have all contributions in hand by Dec. 15th so that we can publish the proceedings shortly after the New Year. All papers should utilize the JACoW templates which are available at http://jacow.org/ (they can be found under the "For Authors" item). The templates are available in Word, Latex, and Open Office formats for a number of platforms. Please submit your paper in the original format (Latex, Word, etc.) instead of PDF to karl.smolenski@cornell.edu for processing. Thank you again for your contributions.

Mark Palmer, Workshop Chair and Karl Smolenski, Editor

Thank you to the organizers