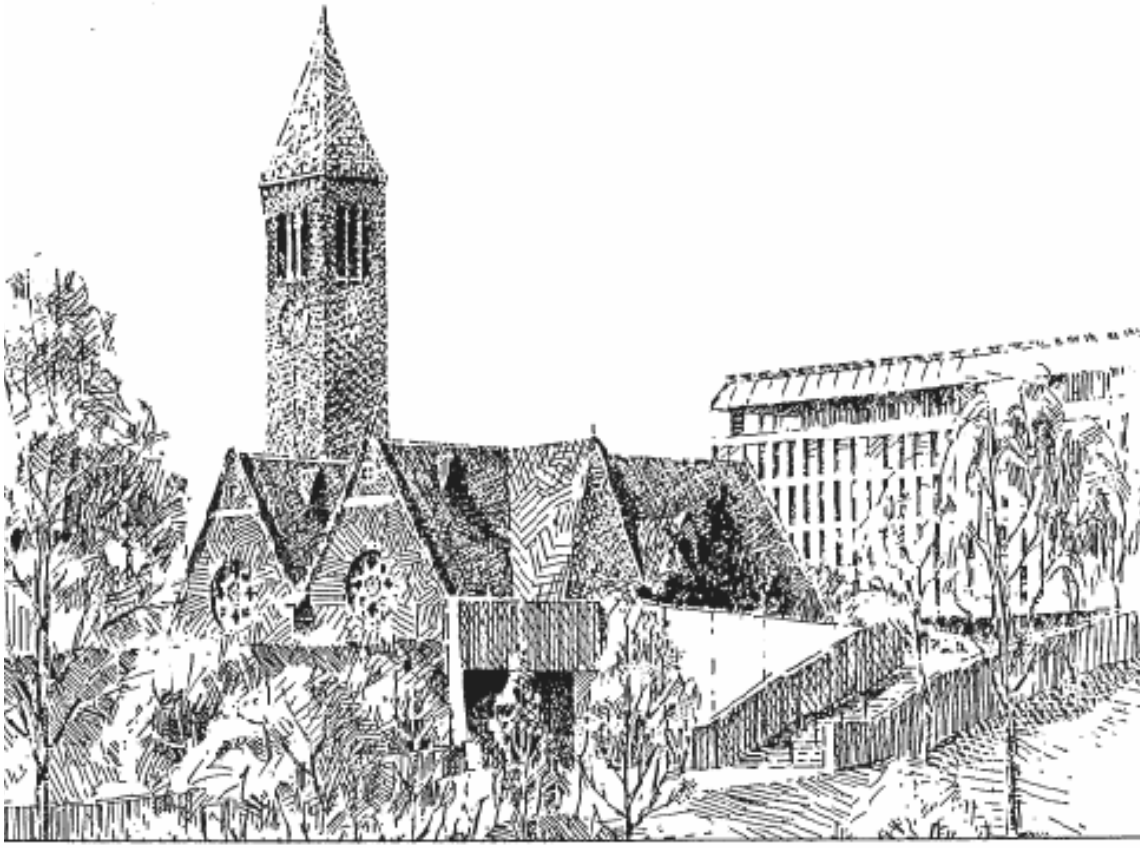
12th International Workshop on RF Superconductivity

Cornell University, Ithaca, New York, USA • July 10 – 15, 2005

SRF 2005

Workshop Guide



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Introduction

RF superconductivity has become an important technology for accelerators at the energy and luminosity frontiers, as well as at the cutting edge of nuclear physics, basic materials, and life sciences. There has been an explosion in the number of accelerator applications and in the number of laboratories engaged in the field.

Continuing the tradition of eleven successful workshops starting in 1980, the 12th workshop will cover the latest advances in the science, technology, and applications of RF superconductivity to particle accelerators. Our program will review the status of applications in-stream as well as exciting prospects for the future. As customary, there will be invited review talks on many aspects of SRF technology, as well as two afternoon poster sessions for contributed papers. Steady advances in SRF science and technology are responsible for a spectacular increase in performance level since the large installations of the 1990's. Guided discussions on hot topics will form a lively session where we can look forward to new developments. A special session will be devoted to doctoral dissertations on RF superconductivity topics. On the first day of the meeting, there will be tutorial sessions for newcomers on various aspects of the field.

Prof. Hasan Padamsee (Cornell University), Workshop Chairman

General Information

Workshop site

The workshop will be held on the Cornell University campus. Plenary sessions and tutorials will be in the Olin Hall Auditorium (rm. 155). A parallel tutorial session will be in the second floor auditorium (rm. 255). Poster sessions and an industrial exhibition will be in the Willard Straight Hall Memorial Room. The workshop office (rm. 216), publication and registration office (Olin Hall Lounge, rm. 128), and computer room (rm. 145) will be located in Olin Hall. Wireless internet access will be set up in Olin Hall.

Publication and Registration Office / Information Desk

The workshop registration will be open during the Welcome Reception in the Willard Straight Hall Memorial Room. For the remaining of the workshop it will be located on the first floor of the Olin Hall in publication and registration office (rm. 128). The information desk will be located in publication and registration office. There will be a message board at the entrance of the Olin Hall.

The workshop proceedings will be published on the web as soon as possible. Authors are required to submit their papers online. Authors should use the style templates provided by the Joint Accelerator Conference Website (http://accelconf.web.cern.ch/accelconf/). If you are preparing a poster, the expected length is about three pages. If you are preparing an oral presentation, the expected length is about five pages. The length of the paper is *not limited*. You must submit the paper source, all associated graphics files, and a postscript file of the final version. All files must be named with the paper ID followed by an appropriate extension (for example, MoA01.ps). All supporting files should have an extended name like MoA01_fig1.jpg. The deadline for paper submission is September 16th, 2005. If assistance is needed during the workshop, please contact the publication office. Authors are required to submit a copyright form for each paper. The copyright form can be downloaded from the workshop website or obtained from the publication office during workshop.

The hours of the publication and registration office are:

Sunday, July 10	6:00 pm to 8:00 pm
Monday – Thursday, July 11-14	8:00 am to 12:30 pm and 1:30 pm to 5:30 pm
Friday, July 15	8:00 am to noon

Computer Room

To check e-mails, submit papers or access internet, a computer room is available. It contains several PCs running Windows XP. Wireless internet access for laptops is available as well. The room (rm. 145, Olin Hall) is located next to the main auditorium. The hours are:

Monday – Thursday, July 11-14	8:00 am to 5:30 pm
Friday, July 15	8:00 am to noon

Oral Presentations

To avoid delays we ask all speakers to submit their presentations as PowerPoint or PDF files in advance. You can upload the file using our online paper submission. The file must be named with the paper ID and "_talk.ppt" or "_talk.pdf" (for example, MoA01_talk.ppt). For large files (>10 MB) and for presentations that include video or audio files, please compress files into a single .zip file for uploading. Alternatively electronic presentations can be submitted to the publication office on a CD or a USB-stick. All files should be submitted one day before the presentation takes place.

Poster Sessions

Two poster sessions are scheduled for Tuesday and Thursday afternoon in the Willard Straight Hall Memorial Room. Posters should be mounted a half an hour before the poster session begins, attended through at least the major part of the session, and removed immediately after the end of each session. The poster boards will accommodate posters as

large as 40 inches high by 59 inches wide (approximately 1 meter high by 1.5 meters wide). Map pins will be provided for mounting posters. Workshop staff will be available prior to each poster session to assist authors.

Industrial Exhibition

The industrial exhibition will be open Tuesday and Thursday afternoon during the poster sessions in the Willard Straight Hall Memorial Room. The exhibitors registered at the time this guide went to press are:

ACCEL Instruments GmbH
Advanced Design Consulting USA, Inc.
Advanced Energy Systems, Inc.
AMAC International, Inc.
ATI Wah Chang
CERCA – AREVA
Henkel Beiz- und Elektropoliertechnik GmbH
Meyer Tool and Manufacturing, Inc.
Ningxia Orient Tantalum Industry Co.
Thales Components Corporation
Tokyo Denkai Co., Ltd.
Toshiba Electron Tubes & Devices Co., Ltd.

More exhibitors may have been scheduled after this guide went to press. A complete listing will be available at http://www.lepp.cornell.edu/public/SRF2005/indexhib.html.

Ground Transportation

The Ithaca Tompkins Regional Airport (http://www.ithaca-airport.com/) is a 10-minute drive from campus and downtown areas. Note: Ithaca airport is served by US Airways and Northwest Airlines. Local bus, van, and taxi service is also available. All hotels provide shuttles from Ithaca airport.

Syracuse Hancock International Airport (http://www.syrairport.org/) in Syracuse, NY, is approximately 60 miles north of Cornell University with an estimated driving time of 1 hour and 30 minutes. For people arriving Saturday afternoon and Sunday, we will arrange shuttle bus service. Please reserve the shuttle bus transportation with us in advance to secure space on the bus by e-mailing your itinerary to srf2005@lepp.cornell.edu. Participants will have to pay for the shuttle bus transportation. The price is up to $55 per person depending on the number of persons. If you will arrive outside shuttle bus schedule, please refer to the Cornell Travel Information site (http://www.cornell.edu/visiting/ithaca/visiting.cfm).

Tours and Social Events

A tour(s) of CESR and SRF facilities is planned for the afternoon of Friday, July 15 (after the end of the workshop).

There are several social events planned:

- The Welcome Reception will be in the Willard Straight Hall Memorial Room on Sunday, July 10 starting at 6:30 pm.
- Three boat tours aboard M/V Manhattan will be on Sunday, July 10 from 4:00 pm to 6:00 pm (one tour), and on Monday, July 11 from 6 to 9 p.m. (two tours). As the seating is limited, registration for the tours is required. Transportation to and from the boat tours will be provided.
- A free concert at the Cornell Performance Arts Center will begin at 7:30 pm on Tuesday, July 12. Sign-up sheets will be available at the Registration Desk on Sunday and Monday.
- Afternoon of Wednesday, July 13 we will spend enjoying beautiful nature of the Finger Lakes region. We will start with a walk along the Watkins Glen State Park gorge trail. This will be followed by a barbeque picnic at Taughannock State Park. Various outdoor activities will be available (volleyball, badminton, bocceball, Frisbee). Buses will leave from the Olin Hall to Watkins Glen at 2:00 pm, from Watkins Glen to Taughannock State Park at 5:00 pm and return to the hotels at 8:30 pm.
- On Thursday, July 14 we will have a reception at Johnson Art museum and a banquet at Statler Hotel. The reception will begin at 6:00 pm, the banquet will be from 7:00 to 10:00 pm.

Companion Program Events

Will you be bringing companions for this conference? With a focus on learning some of the local history and culture and on having lots of fun, SRF Workshop 2005 has several events available for your companions. There is a fee associated with each event. Transportation to and from, admissions, and lunch (excluding alcohol) are all included. Advanced registration is required by July 1st**.** There is a limit of 12 participants for each event. For any event with fewer than 8 confirmed participants, the event will be cancelled and a full refund given. In addition to the scheduled events, information on other suggestions both in Ithaca and within driving distance will be available at the companion program check-in table. More details about the companion program events are available at http://www.lepp.cornell.edu/public/SRF2005/companion.html.

Insurance and Emergency

Cornell University will not be responsible for medical expenses, accidents, losses or other unexpected occurrences. Participants are advised to arrange for any insurance they regard necessary.

Bus Schedule During Workshop (tentative)

Bus transportation to and from hotels will be provided by ***Swarthout Coaches***. Here is the tentative schedule:

Sunday, July 10

7:30 am	arrive at hotels
8:00 am	depart hotels to campus
8:30 am	arrive on campus (Olin Hall) from hotels
3:30 pm	depart from campus to MV Manhattan
3:45 pm	arrive MV Manhattan from campus (boat tour at 4:00)
6:00 pm	depart MV Manhattan to campus
6:00 pm	depart hotels to campus
6:30 pm	arrive on campus from hotels
6:30 pm	arrive on campus from MV Manhattan
9:30 pm	depart from campus to hotels

Monday, July 11

7:30 am	arrive at hotels
8:00 am	depart hotels to campus
8:30 am	arrive on campus (Olin) from hotels
5:15 pm	depart hotels to campus
5:30 pm	arrive on campus from hotels
5:45 pm	depart campus to hotels
5:45 pm	depart campus to MV Manhattan (Tour 1)
6:00 pm	arrive at MV Manhattan from Campus (boat tour at 6:00)
7:00 pm	depart campus to MV Manhattan (Tour 2)
7:15 pm	arrive at MV Manhattan (boat tour at 7:30)
7:30 pm	depart MV Manhattan to hotels (Tour 1)
9:00 pm	depart MV Manhattan to hotels (Tour 2)

Tuesday, July 12

7:15 am	arrive at hotels
7:30 am	depart hotels to campus
8:00 am	arrive on Campus (Olin) from hotels
5:15 pm	depart campus to hotels
6:30 pm	depart hotels for Performing Arts Center
7:00 pm	arrive at Performing Arts Center from hotels
7:15 pm	depart campus to hotels (for those not attending concert)
9:00 pm	depart Performing Arts Center to hotels

Wednesday, July 13

7:15 am	arrive at hotels
7:30 am	depart hotels to campus
8:00 am	arrive on campus (Olin) from hotels
2:00 pm	depart from Olin toWatkins Glen (drop off at top and pick up at bottom)
5:00 pm	depart from Watkins Glen to Taughannock Park
6:00 pm	arrive Taughannock from Watkins Glen
8:30 pm	depart Taughannock to hotels

Thursday, July 14

7:15 am	arrive at hotels
7:30 am	depart hotels to campus
8:00 am	arrive on campus (Olin) from hotels
5:45 pm	depart from Willard Straight to Johnson Art Museum (one bus)
7:00 pm	depart from Johnson Art Museum to Statler (one bus)
10:00 pm	depart from Statler to hotels

Friday, July 15

7:15 am	arrive at hotels
7:30 am	depart hotels to campus
8:00 am	arrive on campus (Olin) from hotels
afternoon	transport guests to hotels/airport as needed

SRF2005 Workshop Program

Overview

Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
7:45 am - 8:30 am		Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
8:30 am - 9:00 am		Registration (8:00)	Basic SRF	Discussions	Advances in SRF II	Future facilities
9:00 am - 9:30 am	Tutorials	Plenary				
9:30 am - 10:00 am						
10:00 am - 10:30 am		New projects	Coffee			
10:30 am - 11:00 am		Coffee	Students	Coffee	Coffee	
11:00 am - 11:30 am		New projects		Discussions	Advances in SRF II	Coffee
11:30 am - 12:00 pm						ILC Fest (11:15)
12:00 pm - 12:30 pm	Lunch					
12:30 pm - 1:00 pm		Lunch		Lunch		Awards/Closing
1:00 pm - 1:30 pm					Lunch	Lunch
1:30 pm - 2:00 pm	Tutorials		Lunch			
2:00 pm - 2:30 pm		Advances in SRF I	Poster I (14:15)	Watkins Glen	Poster II	
2:30 pm - 3:00 pm						
3:00 pm - 3:30 pm						CESR/SRF tours
3:30 pm - 4:00 pm		Coffee	Coffee		Coffee	
4:00 pm - 4:30 pm	Boat tour	Advances in SRF I	Poster I		Poster II	
4:30 pm - 5:00 pm						
5:00 pm - 5:30 pm						
5:30 pm - 6:00 pm			Industrialization	Taughannock State Park (till 20:00)		
6:00 pm - 6:30 pm		Boat tour I			Reception	
6:30 pm - 7:00	Welcome reception Registration (till 21:00)					
7:00 pm - 7:30 pm					Banquet	
7:30 pm - 9:00 pm		Boat tour II	Concert			
9:00 pm - 9:30 pm						
9:30 pm - 10:00 pm						

Sunday, July 10th

	Tutorials (155 Olin Hall) *Session Chair: M. Liepe (Cornell)* *Session secretaries: A. Romanenko (Cornell), M. Gusarova (MEPHI)*	**Parallel Tutorials (255 Olin Hall)** *Session Chair: J. Delayen (JLab)* *Session secretaries: G.Eremeev (Cornell), A. Dangwal (U. of Wuppertal)*
9:00AM – 9:50AM	Basic principles of SRF *K. Saito (KEK)*	-
10:00AM – 11:00AM	High-beta cavity design *S. Belomestnykh and V. Shemelin (Cornell)*	Low-beta cavity design *A. Facco (INFN-LNL)*
11:00AM -12:00PM	Input couplers for superconducting cavities - design and test *W. Moeller (DESY)*	The Nb-oxide system *J. Halbritter (Karlsruhe)*
12:00PM – 1:30PM	**Lunch (on your own)**	
	Session Chair: A. Facco (INFN-Legnaro) *Session secretaries: E. Watson (Cornell), P. Sekalski (DMCS-TUL / DESY)*	*Session Chair: K. Saito (KEK)* *Session secretaries: J. Silterra (Cornell), D. Tonini (INFN-LNL)*
1:30PM – 2:20PM	Ponderomotive instabilities and microphonics *J. Delayen (JLab)*	Cleanliness techniques *D. Reschke (DESY)*
2:30PM – 3:30PM	Theory and practice of cavity test systems *T. Powers (JLab)*	Cryomodule design, assembly, alignment *C. Pagani (DESY/INFN-Milano)*
3:30PM – 4:00PM	**Transport to Cayuga Lake**	
4:00PM – 6:00PM	**Boat tour on Cayuga Lake**	
6:00PM – 6:30PM	**Transport to Cornell**	
6:30PM – 9:30PM	**Welcome Reception (Willard Straight Memorial Room)**	

Monday, July 11th 2005

	Plenary Workshop Opening (155 Olin Hall) *Session Chair: D. Proch (DESY)* *Session secretaries: B. Stuhl (Cornell), Z. Conway (U. of Illinois Urbana-Champaign)*
9:00AM – 9:10AM	Welcome *M. Tigner (Cornell)*
9:10AM – 9:25AM	Logistics *S. Belomestnykh (Cornell)*
9:25AM -10:00AM	Introduction – SRF: Two hectic years *H. Padamsee (Cornell)*
	New Projects In-Stream *Session Chair: C. Pagani (DESY/INFN-Milano)* *Session secretaries: R. Calaga (BNL), M. Delheusy (Max-Planck-Institute fuer Metallforschung / CEA)*
10:00AM – 10:30AM	Status of SNS *I. Campisi (ORNL/SNS)*
10:30AM – 11:00AM	**Coffee break**
11:00AM – 11:30AM	Status of TTF *L. Lilje (DESY)*
11:30AM – 12:00PM	A 100 MV cryomodule for CW operation *C. Reece (JLab)*
12:00PM – 12:30PM	SRF in storage rings *M. Pekeler (ACCEL)*
12:30PM – 2:00PM	**Lunch (on your own)**
	Advances in SRF Technology – I *Session Chair: K. Shepard (ANL)* *Session secretaries: P. Quigley (Cornell), M. Souli (IPN Orsay)*
2:00PM – 2:20PM	Structures for RIA and FNAL booster *M. Kelly (ANL)*
2:20PM – 2:35PM	SPIRAL-2 resonators *G. Devanz (CEA-Saclay)*
2:35PM – 2:50PM	The HW resonators in Juelich *R. Stassen (FZ-Juelich)*
2:50PM – 3:05PM	Niobium sputtered QW resonators *A. Porcellato (INFN-LNL)*
3:05PM – 3:20PM	Superconducting RFQs *G. Bisoffi (INFN-LNL)*
3:20PM – 3:35PM	Recent progress in the superconducting RF program at TRIUMF/ISAC *R. Laxdall (TRIUMF)*

3:35PM – 3:50PM	**Coffee break**
	Session Chair: L. Lilje (DESY) *Session secretaries: J. Sears (Cornell), H. Jenhani (LAL Orsay)*
3:50PM – 4:10PM	Performance of medium-beta elliptical cavities *J. Ozelis (JLab)*
4:10PM – 4:30PM	Physical and mechanical properties of single and large crystal high-RRR niobium *G. Myneni (JLab)*
4:30PM – 4:45PM	Performance of large grain and single crystal niobium cavities *P. Kneisel (JLab)*
4:45PM – 5:05PM	Seamless/bonded niobium cavities *W. Singer (DESY)*
5:05PM – 5:25PM	Progress on Nb-Cu coating techniques *S. Calatroni (CERN)*
5:25PM – 5:45PM	High-Tc: New developments & progress on understanding the mechanisms & hope for the future *T. Tajima (LANL)*
5:45PM – 6:00PM	**Transport to Cayuga Lake**
6:00PM – 7:30PM	**First Boat Tour**
7:30PM – 9:00PM	**Second Boat Tour**

Tuesday, July 12th 2005

	Basic SRF Topics (155 Olin Hall) *Session Chair: P. Kneisel (JLab)* *Session secretaries: M. Souli (IPN Orsay), M. Meidlinger (MSU)*
8:30AM – 9:00AM	Theoretical advances in SRF *A. Gurevich (University of Wisconsin)*
9:00AM – 9:20AM	Advancements in comprehension of the Q-slope for superconducting cavities *E. Palmieri (INFN-LNL)*
9:20AM -9:50AM	Review of Frontier Workshop and Q-slope results *G. Ciovati (JLab)*
9:50AM – 10:10AM	Review of new shapes for higher gradient *R. Geng (Cornell)*
10:10AM – 10:30AM	**Coffee break**
	Students/Young Researchers *Session Chair: E. Palmieri (INFN-Legnaro)* *Session secretaries: S. Musser (MSU), H. Jiang (MSU)*
10:30AM -10:45AM	Design & prototype of a high current multi-cell elliptical cavity *D. Meidlinger (MSU)*
10:45AM – 11:00AM	Pulsed-operation of SC spoke cavities *Z. Conway (University of Illinois Urbana-Champaign)*
11:00AM – 11:15AM	ERL 5-cell cavity design for high currents *R. Calaga (BNL)*
11:15AM – 11:30AM	New Results on High Field Q-slope *G. Eremeev (Cornell)*
11:30AM – 11:45AM	SC Cavities at 3.9 GHz *T. Koeth(FNAL)*
11:45AM – 12:00PM	Surface studies of niobium chemically polished under conditions for SRF cavity production *H. Tian (JLab)*
12:00PM – 12:15PM	General Automation of LLRF Control for Superconducting Accelerators *A. Brandt (DESY)*
12:15PM – 12:30PM	New magnetron configurations for Nb onto Cu *G. Lanza (INFN-LNL)*
12:30PM – 12:45PM	A-15 superconductors - Alternative to niobium for RF cavities *S. Deambrosis (INFN-LNL)*
12:45PM – 1:00PM	Flux gate magnetometry applied to cavities *C. Bonavolontà (INFN-LNL)*
1:00PM – 1:15PM	Input coupler development for superconducting cavity 500kW CW power feed *M. Gusarova (MEPHI)*

1:15PM – 1:30PM	Piezoelectric stack based system for Lorentz force compensation *P. Sekalski (DMCS-TUL / DESY)*
1:30PM – 2:15PM	**Lunch (on your own)**
2:15PM – 5:15PM	**Poster Session (Willard Straight Hall Memorial Room)**
5:30PM – 7:00PM	**Industrialization Symposium (155 Olin Hall)** *Organized by D. Proch (DESY)*
	Part 1: Presentation of past, ongoing or planned laboratory activities for industrialization
	a) CERN (LHC)
	b) DESY (XFEL) - *cavity fabrication & treatment – D. Proch (DESY)* - *input coupler - T. Garvey (IN2P3)* - *module assembly - B. Petersen (DESY)*
	c) KEK
	d) FNAL activities towards industrialization – *N. Lockyer (FNAL)*
	Comments by industry - *all*
	Part 2: Presentation/information about existing "Industry Forum"
	a) Linear Collider forum of Japan – *N. Nishi (LCF of Japan)*
	b) Linear Collider forum of Europe – *M. Peiniger (ACCEL)*
	c) Formation of an US industrial consortium for ILC – *T. Favale (AES)*
	Part 3: Open discussion about best coordinated way to industrialization of SRF technology
	Contributions by industry and laboratory partners
	Part 4: Conclusions and outlook
7:30PM	**Free Concert (Performing Arts Center)**

Wednesday, July 13th 2005

	Moderated Discussions on Hot Topics (155 Olin Hall) *Session secretaries: D. Tonini (INFN-LNL), D. Meidlinger (MSU)*
8:30AM – 9:30AM	Topic 1: High-field Q-slope *Moderator: P. Kneisel (JLab)*
9:30AM – 10:30AM	Topic 2: Surface Analysis *Moderator: C. Antoine (CEA-Saclay)*
10:30AM -11:00AM	**Coffee break**
11:00AM – 12:30PM	Topic 3: Spoke vs Elliptical cavities for beta = 0.5 *Moderator: F. Krawczyk (LANL)*
12:30PM – 2:00PM	**Lunch (on your own)**
2:00PM – 5:00PM	**Watkins Glen Outing**
6:00PM – 8:30PM	**Taughannock State Park: Barbeque/Volleyball/Badminton/Frisbee**

Thursday, July 14th 2005

	Advances in SRF Technology - II (155 Olin Hall) *Session Chair: S. Noguchi (KEK)* *Session secretaries: J. Silterra (Cornell), P. Sekalski (DMCS-TUL / DESY)*
8:30AM – 9:00AM	Superconducting RF Test Facility (STF) in KEK *H. Hayano (KEK)*
9:00AM – 9:30AM	Results from the new linear collider test facility at Fermilab *H. Edwards (Fermilab)*
9:30AM -10:00AM	Review of various approaches to address high currents in SRF electron linacs *I. Ben-Zvi (BNL)*
10:00AM – 10:30AM	A Review of the design and performance of CW and pulsed high power couplers *T. Garvey (LAL-Orsay)*
10:30AM – 11:00AM	**Coffee break**
	Session Chair: I. Ben-Zvi (BNL) *Session secretaries: A. Romanenko (Cornell), Z. Conway (U. of Illinois Urbana-Champaign)*
11:00AM – 11:20AM	Advances in electromagnetic modeling through high performance computing *K. Ko (SLAC)*
11:20AM – 11:40AM	Review of superconducting RF guns *D. Janssen (FZ-Rossendorf)*
11:40AM – 12:00PM	Review of slow and fast tuners *S. Simrock (DESY)*
12:00PM – 12:20PM	Review on progress in RF control systems *M. Liepe (Cornell)*
12:20PM – 12:40PM	Crab cavity development *K. Hosoyama (KEK)*
12:40PM – 1:00PM	Summary of Industrialization Symposium *D. Proch (DESY)*
1:00PM – 2:00PM	**Lunch (on your own)**
2:00PM – 5:30PM	**Poster Session (Willard Straight Hall Memorial Room)**
6:00PM – 7:00PM	**Reception at Johnson Art Museum**
7:00PM – 10:00PM	**Banquet at Statler Hotel**

Friday, July 15th 2005

	Future Facilities (155 Olin Hall) *Session Chair: N. Lockyer (University of Pennsylvania)* *Session secretaries: G. Eremeev (Cornell), M. Delheusy (Max-Planck-Institute fuer Metallforschung / CEA)*
8:30AM – 8:55AM	The Rare Isotope Accelerator (RIA) *R. York (MSU)*
8:55AM – 9:20AM	Proton driver *W. Foster (Fermilab)*
9:20AM -9:45AM	European RIB *M. Di Giacomo (GANIL)*
9:45AM – 10:10AM	ERL workshop review *M. Dykes (ASTeC Daresbury)*
10:10AM – 10:35AM	Future FELs *J. Corlett (Berkley)*
10:35AM – 11:00AM	European X-FEL Project *K. Floettmann (DESY)*
11:00AM – 11:15AM	**Coffee break**
	ILC fest *Session Chair: H. Edwards (Fermilab)* *Session secretaries: B. Stuhl (Cornell), E. Watson (Cornell)*
11:15PM – 11:30PM	Accelerator physics challenges of the ILC *G. Dugan (Cornell)*
11:30PM – 12:00PM	Challenges of International Collaboration *M. Tigner (Cornell)*
12:00PM – 12:30PM	GDE expectations from SRF community *B. Barish (Caltech)*
12:30PM – 1:00PM	**Awards/Closing**
1:00PM – 3:00PM	**Lunch (on your own)**
3:00PM – 5:00PM	**CESR/SRF Tours (on request)**

List of Presentations

Paper ID	Submitting Author	Affiliation	Title
Sunday, July 10: Tutorials			
SuA01	K. Saito	KEK	Basic Principles of SRF
SuA02	S. Belomestnykh	Cornell University	High-b Cavity Design
SuA03	W.-D. Moeller	DESY	Input Couplers for Superconducting Cavities - Design and Test
SuA04	A. Facco	INFN-LNL	Low beta Cavity Design
SuA05	J. Halbritter	Karlsruhe	The Nb oxide system – implications for SRF cavities
SuP01	J. Delayen	TJNAF	Ponderomotive Instabilities and Microphonics
SuP02	T. Powers	TJNAF	Theory and Practice of Cavity Test Systems
SuP03	D. Reschke	DESY	Cleanliness Techniques
SuP04	C. Pagani	DESY / INFN-Milano	Cryomodule Design, Assembly, Alignment
Monday, July 11: Invited talks			
MoA01	H. Padamsee	Cornell University	Introduction - SRF: Two Hectic Years
MoA02	I. Campisi	ORNL/SNS	Status of SNS
MoA03	L. Lilje	DESY	Status of TTF
MoA04	C. Reece	TJNAF	A 100 MV Cryomodule for CW Operation
MoA05	M. Pekeler	ACCEL	SRF in Storage Rings
MoP01	M. Kelly	ANL	Structures for RIA and FNAL Booster
MoP02	G. Devanz	CEA-Saclay	SPIRAL 2 resonators
MoP03	R. Stassen	FZ-Juelich	The HW resonators in Juelich
MoP04	A. Porcellato	LNL INFN	Niobium sputtered QWRs
MoP05	G. Bisoffi	INFN-LNL	Superconducting RFQs
MoP06	R. Laxdal	TRIUMF	Recent Progress in the Superconducting RF Program at TRIUMF/ISAC
MoP07	J. Ozelis	TJNAF	Performance of medium-beta elliptical cavities
MoP08	G. Myneni	TJNAF	Physical and mechanical properties of single and large crystal high-RRR niobium
MoP09	P. Kneisel	TJNAF	Performance of Large Grain and Single Crystal Niobium Cavities
MoP10	W. Singer	DESY	Seamless/bonded Niobium Cavities
MoP11	S. Calatroni	CERN	Progress in Nb-Cu coating techniques
MoP12	T. Tajima	LANL	Hi-Tc: New Developments & Progress on Understanding the Mechanisms & Hope for the Future
Tuesday, July 12: Invited talks			
TuA01	A. Gurevich	University of Wisconsin	Theoretical advances in SRF
TuA02	E. Palmieri	INFN-LNL	Advancement in comprehension of the Q-slope for superconducting cavities
TuA03	G. Ciovati	TJNAF	Review of Frontier Workshop and Q-slope results
TuA04	R.L. Geng	Cornell University	Review of new shapes for higher gradient
Tuesday, July 12: Students/Young researchers			
TuA05	D. Meidlinger	MSU	High Current SRF Cavity Design
TuA06	Z. Conway	University of Illinois Urbana-Champaign	Electromagnetic and mechanical mode interactions of spoke-loaded cavities
TuA07	R. Calaga	BNL	ERL 5-cell cavity design for high currents
TuA08	G. Eremeev	Cornell University	New results on High Field Q-slope
TuA09	T. Koeth	FNAL	SC Cavities at 3.9 GHz
TuA10	H. Tian	College of William & Mary ; Jefferson Lab	Surface studies of niobium chemically polished under conditions for SRF cavity production
TuA11	A. Brandt	DESY	General Automation of LLRF Control for Superconducting Accelerators
TuA12	G. Lanza	INFN-LNL	New Magnetron Configuration for Nb onto Cu
TuA13	S. Deambrosis	INFN-LNL	A-15 Superconductors - Alternative to Niobium for RF Cavities
TuA14	C. Bonavolonta	INFN-LNL	Flux Gate Magnetometry Applied to Cavities
TuA15	M. Gusarova	MEPHI	Input coupler development for superconducting cavity 500kW CW power feed
TuA16	P. Sekalski	Technical University of Lodz - DMCS & DESY	Piezoelectric stack based system for Lorentz force compensation

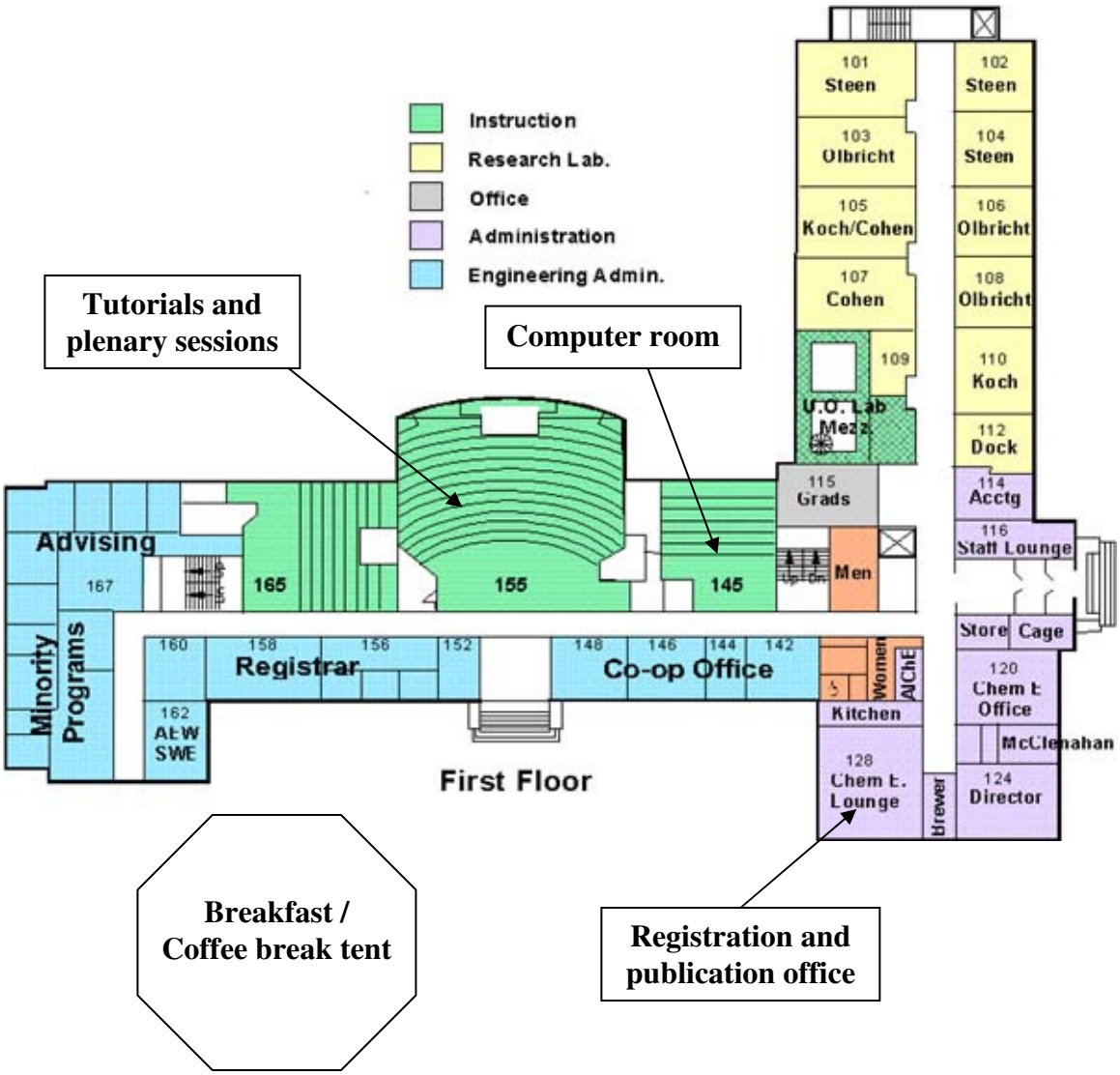
Tuesday, July 12: Posters			
TuP01	P. Bauer	FNAL	A Comparison of Q-Slope Models and Data in Bulk Nb SRF Cavities
Tup02	G. Ciovati	TJNAF	Analysis of the medium field Q-slope in superconducting cavities made of bulk niobium
TuP03	G. Eremeev	Cornell University	Change In High Field Q-Slope By Anodizing Of The Baked Cavities
TuP04	M. Delheusy	CEA-Saclay / Max-Planck-Institut fur Metallforsch	In-situ investigation of the Nb/oxygen interfaces - correlation with the properties of the Nb RF superconducting cavities
TuP05	B. Visentin	CEA-Saclay	First Experimental Results on “Fast Air-Baking”
TuP06	J. Norem	ANL	Atom-Probe Tomography Analyses of Niobium Superconducting RF Cavity Materials
TuP07	D. Swenson	Epion Corporation	Study of gas cluster ion beam surface treatments for mitigating RF breakdown
TuP08	A. Wu	TJNAF	Investigation of Oxide Layer Structure on Nb Surfaces Using a Secondary Ion Mass Spectrometer
TuP09	J. Kaufman	Cornell University	SIMS analysis of NbO on Nb samples of different oxygen content
TuP10	J. Kaufman	Cornell University	Surface roughness vs grain size analysis on Nb samples
TuP11	A. Dangwal	University of Wuppertal	DC Field Emission Scanning Measurements of Electropolished Nb Samples
TuP12	L. Hand	Cornell University	Use of Precision X-Ray Diffraction, Interstitial Gas Fusion Analysis and Squid Measurements to Investigate CVD- and Bulk- Niobium Samples
TuP13			Abstract withdrawn
TuP14	T. Khabiboulline	FNAL	Recent results of testing 3-cell 3.9 GHz accelerating cavity at Fermilab
TuP15	M. Meidlinger	MSU	Design of Half-Reentrant SRF Cavities
TuP16	K. Mittal	Bhaba Atomoic Research Center	RF Design of a Single Cell Superconducting Elliptical Cavity with Input Coupler
TuP17	K. Mittal	Bhaba Atomoic Research Center	Structural Analysis of Single Cell Superconducting Elliptical Cavity With Static Lorentz Force
TuP18	K. Mittal	Bhaba Atomoic Research Center	Optimization of Wall Thickness of Superconducting 700 MHz Bulk Niobium and Niobium Coated OFHC Copper Cavities by Thermal/Structural Analysis
TuP19	Y. Morozumi	KEK	Design and Analysis of 45 MV/m Superconducting Structures
TuP20	T. Saeki	KEK	Fabrication of four 9-cell IHCIRO high-gradient cavities for the R&D of ILC accelerator in KEK
TuP21	K. Saito	KEK	Mechanical Structure Analysis for ICHIRO 9-Cell Cavity
TuP22	F. Staufenbiel	FZ-Rossendorf	Field Profile Measurement of the 3½ Cell SRF Gun
TuP23	F. Staufenbiel	FZ-Rossendorf	Status of the 3½ Cell SRF Gun Project in Rossendorf
TuP24	A. Sun	ORNL	Exponential Decayed Pulse Incident Power Measurement Formulae for a Superconducting RF Cavity without Beam Load
TuP25	D. Tonini	INFN - LNL	Preliminari Study of Bulk Niobium Superconductive Photonic Bandgap Accelerating Cavity
TuP26	J. Norem	ANL	High Electric Fields in rf Cavities
TuP27	S. Musser	MSU	X-Ray Imaging of Superconducting Radio Frequency Cavities
TuP28	G. Wu	TJNAF	Multipacting analysis for JLAB ampere class cavities
TuP29	P. Pierini	INFN-Milano	The Fast Piezo-Blade Tuner for SCRF Resonators
TuP30	R.L. Geng	Cornell University	Niobium-Copper Cavity Development for Muon Collider
TuP31			See student talk TuA06
TuP32	R. Eichhorn	FZ-Juelich	The summarized fndings from the Juelich halfwave Resonators
TuP33	H. Gassot	IPN Orsay	Triple-Spoke Cavity Design Improvement for HIPPI Collaboration
TuP34	I. Gonin	FNAL	Design of 325 MHz Single Spoke Resonator at FNAL
TuP35	I. Gonin	FNAL	Development of the SCRF ?=0.81 cavity for Proton Driver
TuP36	R. Laxdal	TRIUMF	ISAC-II QWR Cavity Characterizations and Investigations
TuP37	G. Olry	Institut de Physique Nucleaire	Development of Beta 0.12, 88 MHz, Quarter-Wave Resonator and its Cryomodule for the SPIRAL2 Project
TuP38	G. Olry	Institut de Physique Nucleaire	Development of Spoke Cavities for the EURISOL and EUROTRANS Projects
TuP39	M. Pekeler	ACCEL	Performance of a prototype 176 MHz beta=0.09 half-wave resonator for the SARAF Linac
TuP40	K. Shepard	ANL	Development of Spoke Cavities for RIA
TuP41	E. Zaplatine	FZ-Juelich	Multiti-Spoke Cavity End Region Analysis

TuP42	E. Zaplatine	FZ-Juelich	FZJ SC Cavity Coupled Analyses
TuP43	R.L. Geng	Cornell University	High-Gradient Activities at Cornell: Reentrant Cavities
TuP44	K. Saito	KEK	R&D Activities for ILC High Gradient Cavity in KEK
TuP45	K. Saito	KEK	Feasibility Study of ~ 50MV/m by Single Cell Cavities
TuP46	J. Ozelis	TJNAF	A Sapphire Loaded TE011 Cavity for Surface Impedance Measurements – Design, Construction, and Commissioning Status
TuP47	P. Bauer	FNAL	Recent RRR measurements on Niobium at Fermilab
TuP48	C. Boffo	FNAL	Eddy Current Scanning at Fermilab
TuP49	W. Singer	DESY	SQUID-based scanning system for detecting defects in Nb sheets for RF cavities
TuP50	W. Frisken	York University	Laser Annealing Experiments with Niobium
TuP51	Z. Insepov	ANL	Computer simulation of surface modification with ion beams
TuP52	H. Jiang	MSU	Cold rolling texture evolution in high purity niobium using a tapered wedge specimen
TuP53	H. Jiang	MSU	Creep and dimensional stability of high purity niobium electron beam welds
TuP54	P. Lee	University of Wisconsin	Grain Boundary Flux Penetration and Resistivity in Large Grain Niobium Sheet
TuP55	A. Polyanskii	University of Wisconsin	A Magneto Optical Study of Grain Boundary Flux Penetration in Niobium Sheet Sampled Across Simulated Cavity Production Route
TuP56	G. Myneni	TJNAF	Contaminant analysis of polycrystalline and single crystal niobium used in accelerator cavities by SIMS
TuP57	R. Ricker	NIST	Comparison of Deformation in High-Purity Single/Large Grain and Polycrystalline Niobium Superconducting Cavities
TuP58	X. Singer	DESY	Investigation of Ingot Material with Large Grain for RF Cavities
TuP59	K. Enami	KEK	Development of Nb/Cu Clad Seamless Cavity
TuP60	F. Furuta	KEK	Different materials bonding by HIP technology and the reliability
TuP61	A. Gerhan	Alameda Applied Sciences Corp	Studies of niobium thin films deposited by coaxial energetic deposition
TuP62	R. Russo	INFN Sezione di Napoli	Cathodic Arc Grown Niobium films for RF Superconducting Cavity Applications
TuP63	A. Romanenko	Cornell University	RF properties at 6 GHz of Cathodic Arc films up to 300 Oe
TuP64	G. Wu	TJNAF	A prototype of 500MHz cavity coating system by ECR plasma
TuP65	M. Fouaidy	IPN Orsay	RRR of Copper Coating and Low Temperature Electrical Resistivity of Materials for TTF Couplers
TuP66	C. Nieter	Tech-X Corporation	Modeling RF Cavities and Multipacting with the VORPAL Code
TuP67	G. Wu	TJNAF	Studies of electron activities in SNS cavities using FishPact
TuP68	E. Palmieri	INFN-LNL	Progress on Spun Seamless Cavities
Wednesday, July 13: Modearted discussions			
WeA01	P. Kneisel	TJNAF	Topic 1: High-field Q-slope
WeA02	C. Antoine	CEA-Saclay	Topic 2: Surface Analysis
WeA03	F. Krawczyk	LANL	Topic 3: Spoke vs Elliptical Cavities for beta = 0.5
Thursday, July 14:Invited talks			
ThA01	H. Hayano	KEK	Superconducting RF Test Facility (STF) in KEK
ThA02	H. Edwards	DESY/FNAL	Results from the New Linear Collider Test Facility at Fermilab
ThA03	I. Ben-Zvi	BNL	Review of Various Approaches to Address High Currents in SRF Electron Linacs
ThA04	T. Garvey	LAL Orsay	A Review of the Design and Performance of CW and Pulsed High Power Couplers
ThA05	K. Ko	SLAC	Advances in Electromagnetic Modeling through High Performance Computing
ThA06	D. Janssen	FZ-Rossendorf	Review of superconducting RF Guns
ThA07	S. Simrock	DESY	Review of slow and fast tuners
ThA08	M. Liepe	Cornell University	Review on progress in RF control systems
ThA09	K. Hosoyama	KEK	Crab cavity development
ThA10	D. Proch	DESY	Summary of Industrialization Symposium
Thursday, July 14:Posters			
ThP01	C. Boffo	FNAL	EP on Small Samples Studies at Fermilab
ThP02	F. Eozenou	CEA/Saclay	Efficiency Of Electropolishing Versus Bath Composition And Aging: First Results

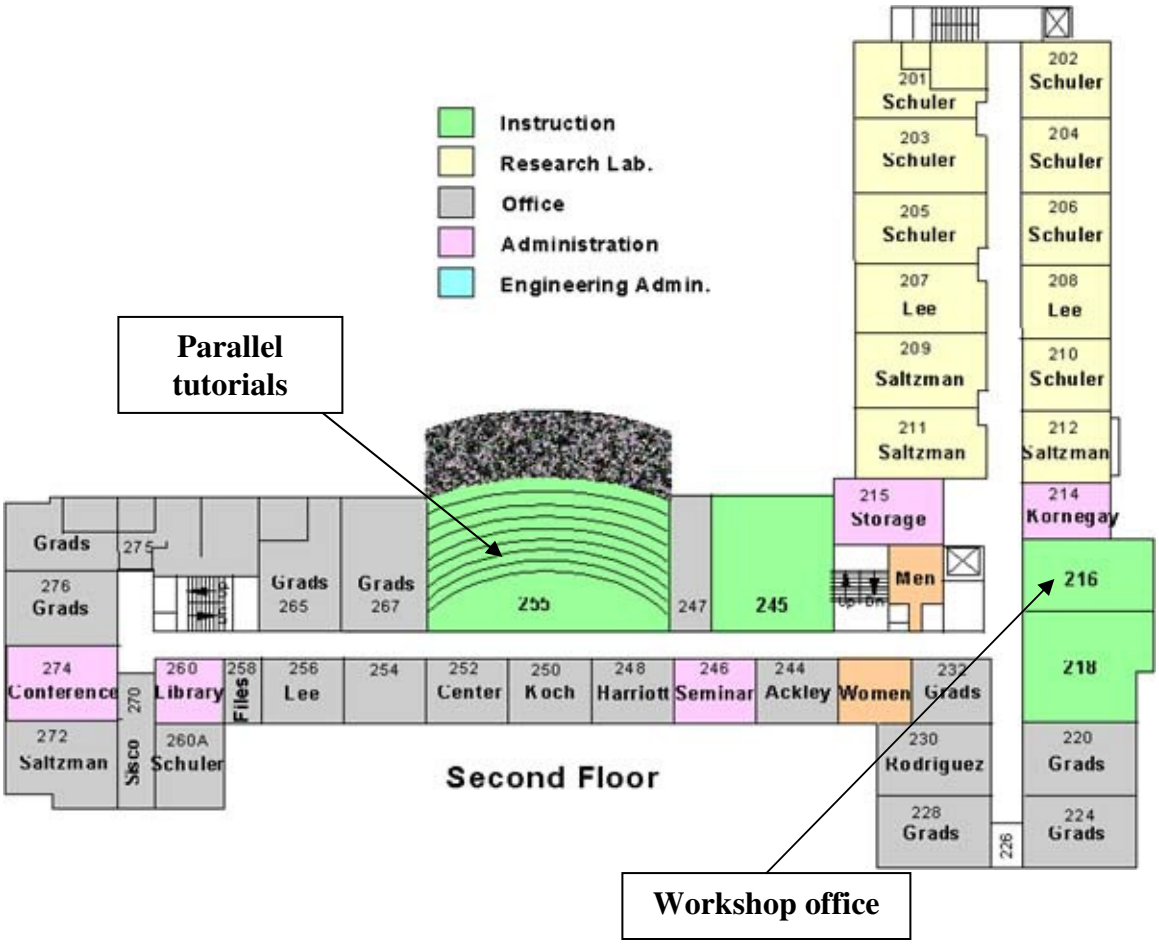
ThP03	F. Eozenou	CEA/Saclay	Aluminium and Sulphur Impurities in Electropolishing Baths
ThP04	R.L. Geng	Cornell University	Vertical Electropolishing Niobium Cavities
ThP05	N. Steinhau-Kühl	DESY	Update on the experiences of electro polishing of multi-cell resonators at DESY
ThP06	L. Lilje	DESY	Electropolishing of Niobium Mono-Cell Cavities at HENKEL Electropolishing Technology Ltd. (Germany)
ThP07	J. Mammosser	TJNAF	Status of The Electropolishing Program At Jefferson Lab
ThP08	A. Matheisen	DESY	Preparation Sequences for Electro-Polished High Gradient Multi-cell Cavities at DESY
ThP09	A. Brinkmann	DESY	Further Improvements with Dry-Ice Cleaning om SRF-Cavities
ThP10	P. Michelato	INFN-Milano	High pressure rinsing parameters measurement and process optimization
ThP11	M. Kelly	ANL	A Joint ANL/FNAL Cavity Surface Processing Facility
ThP12	J. Sears	Cornell University	Developments in Electron Beam Welding of Niobium Cavities
ThP13	N. Krupka	DESY	Update on Quality Control of the Clean-room for Superconducting Multi Cell Cavities at DESY
ThP14	K. Escherich	DESY	Clean-room Facilities for High Gradient Resonator Preparation
ThP15	J. Dammann	DESY	Towards Industrialisation: Supporting the Manufacturing Processes of Superconducting Cavities at DESY
ThP16	J. Rathke	Advanced Energy Systems Inc.	Prototyping Activities at AES for ANL-RIA and ATLAS Cavities
ThP17	K. Sennyu	Mitsubishi Heavy Industries, ltd	Development of the Superconducting Cavity at Mitsubishi Heavy Industries, Ltd.
ThP18	T. Furuya	KEK	Status of the Superconducting Accelerating Cavity for KEKB
ThP19	S. Belomestnykh	Cornell University	Status of the CESR Superconducting RF System
ThP20	R. Calaga	BNL	High Current Superconducting Cavities at RHIC
ThP21	D. Gall	DESY	A Database for Superconducting Cavities for the TESLA Test Facility
ThP22	R.L. Geng	Cornell University	Two-Cell Niobium Injector Cavity for Cornell ERL Prototype
ThP23	M. Gopych	Institut fuer Kernphysik	Recent Results and Developments from the S-DALINAC
ThP24	J. Hao	Peking University	Recent Progresses on DC-SC Photoinjector at Peking University
ThP25	J. Hao	Peking University	Possibility of Adopting Solenoid in DC-SC Photoinjector
ThP26	D. Holmes	Advanced Energy Systems Inc.	Design and Fabrication of thr RHIC Electron-Cooling Experiment High Beta Cavity and Cryomodule
ThP27	J. Iversen	DESY	Single Cell Cavity Program for the XFEL
ThP28	N. Lobanov	ANU	Report on Superconducting RF Activities at ANU
ThP29	D. Mitchell	FNAL	Fermilab's Mechanical Design and Engineering of the 3.9 GHz, 3rd Harmonic SRF System
ThP30	S. Noguchi	KEK	STF Baseline Cavities and RF Components
ThP31			Abstract withdrawn
ThP32	R. Tanner	CLS	Canadian Light Source Storage Ring RF System
ThP33	Ch. Wang	NSRRC	Status and Development of the Superconductivity RF at NSRRC
ThP34	B. Zhang	Peking University	The Progress Report at Peking University
ThP35	J. Biarotte	IPN Orsay	A European Advanced Technology Programme for ADS Accelerator Development
ThP36	C. Thomas-Madec	Synchrotron SOLEIL	HIGH POWER (35 KW AND 190 KW) SOLID STATE AMPLIFIERS FOR THE SOLEIL SYNCHROTRON
ThP37	W. Hartung	MSU	Cryomodule Development at Michigan State University for the Rare Isotope Accelerator
ThP38	J. Fuerst	ANL	Status of the ATLAS Upgrade Cryomodule
ThP39	E. Kako	KEK	Pulsed Operation of the 972MHz Prototype Cryomodule for ADS Superconducting Linac
ThP40	R. Laxdal	TRIUMF	Magnetic Effects in the ISAC-II Cryomodule
ThP41	M. Liepe	Cornell University	The CW Cornell ERL Injector Cryomodule
ThP42	M. Louvet-Monsanglant	Synchrotron SOLEIL	Design of the Liquid Helium Supply Unit of the SOLEIL Superconducting RF System
ThP43	P. Pierini	INFN-Milano	The Wire Position Monitor (WPM) as a Sensor for Mechanical Vibration for TTF Cryomodules
ThP44	T. Powers	TJNAF	Commissioning and Operational Experience With an Intermediate Upgrade Cryomodule for the CEBAF 12 GeV Upgrade
ThP45	C. Thomas-Madec	Synchrotron SOLEIL	Successful RF and Cryogenic Tests of the SOLEIL Cryomodule
ThP46	R. Rimmer	TJNAF	The JLab Ampere-Class cryomodule

ThP47	Q. S. Shu	AMAC International Inc.	Development and Testing of RF Double Window Input Power Couplers for TESLA
ThP48	H. Jenhani	LAL Orsay	Preparation and Conditioning of the TTF VUV-FEL Power Couplers
ThP49	Y. Kang	ORNL	RF Processing of Couplers for the SNS Superconducting Cavities
ThP50	T. Khabiboulline	FNAL	Power Couplers Design for Third Harmonic and Spoke Cavities at Fermilab
ThP51	H. Matsumoto	KEK	A New Design for The ILC-45MV/m Cavity Input Coupler
ThP52	S. Mitsunobu	KEK	High Power Test of Input Couplers and HOM dampers for KEKB Superconducting Cavity
ThP53	M. Souli	IPN Orsay	Study of Thermal Interaction Between a CW 150 kW Power Coupler and a Superconducting 700 MHz Elliptical Cavity
ThP54	V. Veshcherevich	Cornell University	Design of High Power Input Coupler for Cornell ERL Injector Cavities
ThP55	J. Sekutowicz	DESY	A Beam Line HOM Absorber for The European XFEL linac
ThP56	H. Hahn	BNL	R-square Impedance of ERL Ferrite HOM absorber
ThP57	M. Liepe	Cornell University	Broadband HOM absorber for the Cornell ERL
ThP58	G. Wu	TJNAF	Electromagnetic simulations of coaxial type HOM coupler
ThP59	S. Tariq	FNAL	FNAL 3.9 GHz HOM Coupler & Coaxial Cable Thermal FEA
ThP60	M. Fouaidy	IPN Orsay	Electromechanical, Thermal Properties and Radiation Hardness Tests of Piezoelectric Actuators at Low Temperature
ThP61	Y. Higashi	KEK	Coaxial ball screw tuner for ICHRO 9-cell cavity
ThP62	P. Pierini	INFN-Milano	Characterization of an elliptical low beta multicell structure for pulsed operation
ThP63	T. Plawski	TJNAF	Digital Cavity Resonance Monitor – Alternatively Way to Measure Cavity Microphonics
ThP64	T. Powers	TJNAF	Transient Microphonic Effects In Superconducting Cavities
ThP65	H. Saugnac	IPN Orsay	Cold Tuning Sysytem for 700 MHz Elliptical Superconducting Cavity for Protons
ThP66	M. Liepe	Cornell University	Pushing the Limits: RF Field Control at High Loaded Q
ThP67	M. Liepe	Cornell University	Experience with the New Digital RF Control System at the CESR Storage Ring
Friday, July 15: Invited talks			
FrA01	R. York	MSU	The Rare Isotope Accelerator (RIA)
FrA02	G. W. Foster	FNAL	Proton Driver
FrA03	M. di Giacomo	CEA-GANIL-SPIRAL2	Status of the SPIRAL 2 project at GANIL
FrA04	M. Dykes	ASTeC Daresbury	ERL workshop review
FrA05	J. Corlett	LBNL	Future FEL's
FrA06	K. Floettmann	DESY	European X-FEL Project
FrA07	G. Dugan	Cornell University	Accelerator Physics Challenges of the ILC
FrA08	M. Tigner	Cornell University	Challenges of International Collaboration
FrA09	B. Barish	Caltech	GDE Expectations from SRF Community

Floor Plan of the Olin Hall (first floor)



Floor Plan of the Olin Hall (second floor)



Floor Plan of the Willard Straight Hall Memorial Room