



2nd ICFA Beam Dynamics Mini-Workshop on Deflecting/Crabbing Cavity Applications in Accelerators

Cockcroft Institute
1 – 3 September 2010



**ICFA BEAM DYNAMICS MINI-WORKSHOP ON
DEFLECTING/CRABBING CAVITY
APPLICATIONS IN ACCELERATORS**

COCKCROFT INSTITUTE: 1-3 SEPTEMBER 2010

<p>International Organizing Committee</p> <p>Aleza Nassiri (Co-Chair) ANL, USA</p> <p>Peter McIntosh (Co-Chair) Daresbury Laboratory, UK</p> <p>Graeme Burt Lancaster University, UK</p> <p>Huishi Chen Tsinghua University, China</p> <p>Kenji Hosoyama KEK, Japan</p> <p>Kwang-Je Kim ANL, USA</p> <p>Derun Li LBNL, USA</p> <p>Robert Rimmer JLab, USA</p> <p>Zhenfeng Zhao Shanghai, China</p> <p>Frank Zimmermann CERN, Switzerland</p>	<p>Scientific Program Committee</p> <p>Derun Li (Chair) LBNL, USA</p> <p>John Byrd LBNL, USA</p> <p>Rama Calaga SLAC, USA</p> <p>Alessandro Gallo INFN/LNF, Italy</p> <p>Jie Gao IHEP, China</p> <p>Jianfeng Liu Shanghai, China</p> <p>Andrei Seryi SCAC, USA</p>	<p>Local Organizing Committee</p> <p>Peter McIntosh (Chair) Daresbury Laboratory, UK</p> <p>Praveen Ambattu Lancaster University, UK</p> <p>Carl Beard Daresbury Laboratory, UK</p> <p>Graeme Burt Lancaster University, UK</p> <p>Leanne Fletcher Daresbury Laboratory, UK</p> <p>Philippo Gouduke Daresbury Laboratory, UK</p> <p>Sue Waller Daresbury Laboratory, UK</p>
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For further information please contact:
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Deadline for registration: 13 August 2010

Information and registration:
www.cockcroft.ac.uk/event/cavity











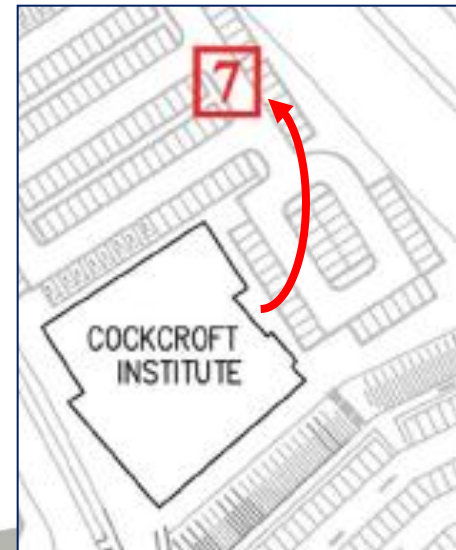

Evacuation Procedures

- On hearing alarm.
- Calmly leave the building via the most appropriate route and exit.
- Convene at Cockcroft Muster Point #7 (rear of CI building).

Note:

There is a scheduled fire alarm test this morning!

Do not leave the building for this test!



Originally planned for 21-23 April



08:12 Flight	Remarks	Desk	08:12 Flight	Remarks	Desk
08:15 CX1280	Cancelled	57-61	10:55 LH658	Cancelled	
08:20 BE693	Cancelled	37-46	11:10 IB7679	Cancelled	
08:25 BA2903	London Gatwick	57-61	11:15 BE815	Cancelled	
18:25 BD1983	Cancelled	23-26	11:45 MA4907	Cancelled	
8:25 EY7017	Cancelled	37-46	11:45 BA6150	Cancelled	
10:30 BE472	Cancelled	37-46	12:05 BE344	Cancelled	
35 EY7008	Cancelled	37-46	12:15 EZY1971	CANCELLED	
15 BE372	Cancelled	37-46	12:20 BE293	Cancelled	
5 BE862	Cancelled	37-46	12:20 BE455	Cancelled	
BD1369	Cancelled	23-26	12:25 BE476	Cancelled	
BA8246	Cancelled	57-61	13:05 BA6160	Hanover	37-46
LH6557	Cancelled	23-26	13:15 BA6144	Dusseldorf	37-46
Y7004	Cancelled	37-46	13:25 AA6622	Cancelled	57-61
'303	CANCELLED	16	13:50 BA6138	Paris-Cdg	37-46
	Plymouth		13:50 WW3901	Knock	28-30
107	Chicago	32-35	13:55 BD589	Cancelled	23-26
168	Cancelled	37-46			
30	Cancelled	57-61			
3	Lyon	23-26			

Welcome to the Cockcroft Institute



Daresbury Science and Innovation Campus

<http://www.daresburysic.co.uk/>

<http://www.cockcroft.ac.uk/>



The Cockcroft Institute
of Accelerator Science and Technology



Science & Technology
Facilities Council

Logistics

- All sessions held in CI Walton Room B.
- Lunches/Refreshments in G08.
- ALICE\EMMA\SRF tour arranged for Thursday:
 - Please sign up at registration desk
- Sue Waller and Marie White are event coordinators:
 - Found at registration desk in CI atrium



Mini-Workshop Goals

- 2nd in the series of ICFA supported Mini-Workshop's on Crabbing/Deflecting cavity R&D and their applications:
 - First at SINAP, Shanghai, 23 – 25 April 2008.
 - <http://www.sinap.ac.cn/ICFA2008/index.htm>
- The purpose of this mini-workshop is to bring together researchers in various accelerator communities to discuss advances in crabbing/deflecting RF cavity R&D.
- Topics to be covered:
 - High energy colliders (LHC, KEK-B, ILC, CLIC ...)
 - Generation of short x-ray pulses in synchrotron light sources
 - Beam manipulations, emittance exchange and diagnostics
 - Crab/deflecting cavity design optimisation processes
 - Novel deflecting cavity design



Event Sponsors

- ANL:
- Cockcroft Institute:
- LBNL:
- Shakespeare Engineering:
- Tech-X:



Programme

- Plenary session:
 - Convenors: P McIntosh and A Nassiri
- Working group I: Cavity-Beam Interactions:
 - Convenors: G Burt, L Emery and S Jamison
- Working group II: Cavity and Coupler Design Studies:
 - Convenors: R Calaga, T Nakazato and R Rimmer
- Convenors to summarise sessions and provide report, which will be posted on website following workshop.
- **Speakers please ensure talks are uploaded before their respective sessions:**
 - **Assistance available between sessions!**



Wednesday 1st September

Wednesday, September 1, 2010				
Plenary session I (Chair: Peter McIntosh)				
8:30 AM	Registration			
9:00 AM	Welcome	Swapan Chattopadhyay		CI
9:15 AM	Program overview and local logistics	Peter McIntosh		DL
9:30 AM	New type of a bunch compressor and generation of a short wavelength coherent radiation	Vadim Sajeev		ANL
10:00 AM	Science of short pulse X-rays in Synchrotron Light Sources	Yuelin Li		ANL
10:30 AM	Coffee break			
Plenary session II (Chair: Ali Nassiri)				
11:00 AM	KEK-B Operational Experience with Crab Cavities	Yoshihiro Funakoshi		KEK
11:30 AM	Motivation and CERN Strategy for Crab Cavities	Ed Ciapala		CERN
12:00 PM	Beam Dynamics of Chirp Scheme in Storage Rings	Louis Emery		ANL
12:30 PM	EUCARD Collaboration Crab Cavity Research	Peter McIntosh		DL
1:00 PM	Lunch (with Tech-X Seminar)			
Working Group Session (Chair: Louis Emery)				
2:00 PM	Working Group Charges	Ali Nassiri		ANL
Working Group 1: Cavity-Beam Interactions				
2:15 PM	LHC Luminosity Upgrade Using Deflecting/Crabbing Cavities	Rama Calaga		BNL
2:45 PM	Deflecting rf cavity for emittance exchange experiment @ ANL	Jiaru Shi		CERN
3:15 PM	Coffee break			
3:45 PM	Emittance exchange experiment @FNAL and its applications	Yin-e Sun		FNAL
4:15 PM	Short Pulse X-ray (SPX) Project at APS	Ali Nasiri		ANL
5:30 PM	Shuttle to hotels			

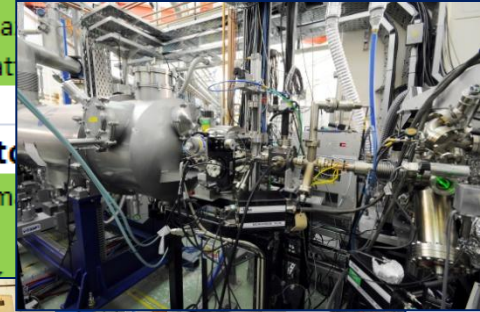


in Seminar Room C



Thursday 2nd September

Thursday, September 2, 2010			
Working Group 2: Cavity and coupler design studies (Convenor: Rama Calaga)			
9:00 AM	Dielectric Loaded Waveguide as a deflecting cavity	Bob Kustom	ANL
9:30 AM	X-band Deflectors	Valery Dolgashev	SLAC
10:00 AM	Experimental studies for ILC and CLIC crab systems	Amos Dexter	CI
10:30 AM	Coffee break		
Working Group 3: Cavity and coupler design studies (Convenor: Robert Rimmer)			
	XFEL and PITZ TDS	Valentin Paramanov	BINP
	Study for the LHC upgrade	Zenghai Li	SLAC
		Toshiharu Nakazato	
		Praveen Ambati	
	Lunch		
Working Group 4: Cavity and coupler design studies (Convenor: Toshiharu Nakazato)			
	X-band deflecting cavities	Valentin Paramanov	
		Graeme Burt	
	Project-X (Webex)	Nikolay Selvakumar	
	Coffee break		
3:30 PM			
4:00 PM			
4:30 PM	ALICE and SRF Infrastructure Tour		
5:00 PM			
5:30 PM	Shuttle to hotels		
7:30 PM	Workshop Dinner (Peckforton Castle, Chester)		



Conference photograph before lunch at 13:00

Friday 3rd September

Friday, September 3, 2010			
Working Group 1: Cavity-Beam Interactions (Convenor: Steven Jamison)			
9:00 AM	Vertical Emittance Blowup in APS storage ring with RF Deflection Scheme	Vadim Sajaev	ANL
9:30 AM	TEM-type cavities	Robert Rimmer	JLAB
10:00 AM	Multipactor simulations	Peter Stoltz	TECH-X
10:30 AM	Coffee break		
Working Group 1: Cavity-Beam Interactions (Convenor: Graeme Burt)			
11:00 AM	Deflecting cavity applications on ALICE and NLS	Steven Jamison	DL
11:30 AM	ANL Crab Cavity Development	Haipeng Wang	JLAB
12:00 PM	Transverse-to-longitudinal emittance exchange in FELs	Valery Dolgashev	SLAC
12:30 PM	Closing remarks (Announcing 2012 Workshop)	McIntosh/Nassiri	DL
12:45 PM	Lunch		
1:45 PM	Workshop Close		



Will have display material available throughout



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Wishing you all a productive and enjoyable ICFA Crabbing/Deflecting Cavity Mini-Workshop!

