

6. ACADEMIC ACTIVITIES

6.1 PELLETRON BEAM UTILIZATION BY USERS

6.1.1 Pelletron Beam Time Utilization and Experiments performed (April 2009 - March 2010)

Users	No. of shifts allotted	Projects in			
		Nuclear Physics	Materials Science	Radiation Biology	Atomic Phys. / AMS
A. Universities / Colleges					
Agra University	5		2		
Allahabad University	2		1		
AMU, Aligarh	28	1	3		
Anna University	4		1		
Bangalore University	4		1		
Bareilli College,UP	2		1		
Bharatidasan University	3		1		
BHU, Varanasi	23	2	2		
Calcutta University	20	2	1		
Calicut University	15	1			
Carolina St. University	2		1		
Delhi University	31	2	1		
Dr. BAM University	2		1		
Gauhati University	2		1		
GBPant University	4		2		
GGSIIP University, N Delhi	4		2		
GNDU, Amritsar	6		3		
Gujarat University	5		2		
HNB University, Garhwal	2		1		
HP University, Simla	3		1		
Hyderabad University	5		1		
IGNOU, New Delhi	2		1		
JMI, New Delhi	4		1		
JNU, New Delhi	2		1		
Kalyani University, WB	2			1	
Kashmir University	3		1		
Kongunadu Coll., Kerala	3		1		
Kurukshetra University	6		2		
Kuvempu University,	3		1		
Manipur University	2		1		
MMH Coll., Ghaziabad	2		1		
MSU, Vadodara	33	2			
Mumbai University	2		1		
Pondichery University	8		1		1
Presidency Coll. Chennai	3		1		
Punjab University	58	4	1		
Rajasthan University	13		4		
Saurashtra University	2		1		
SN Coll. Kollam, Kerala	3		1		
SV College, Aligarh	5		1		
Tezpur University	4		2		

Users	No. of shifts allotted	Projects in			
		Nuclear Physics	Materials Science	Radiation Biology	Atomic Physics/AMS/others
B. Institutions					
Dayalbagh Inst., Agra	4		1		
IIT, Delhi	12		5		
IIT, Mumbai	9	1			
IIT, Roorkee	9	1			
IUAC, New Delhi	79	4	5	1	2
KIIT, Bhubaneswar	2		1		
LNL, INFN, Italy	9	1			
PRL, Ahmedabad	16				1
SINP, Kolkata	27	3			
TIFR, Mumbai	9	1			
VECC, Kolkata	9	1			
C. Facility tests	69				
Total	586	26	64	2	4

6.1.2 List of Users Family

The following list includes Universities/Colleges/Institutions that have used the IUAC Pelletron facility (once or more) since 1991.

(A) UNIVERSITIES - (80)

01.	Agra University (B.R. Ambedkar Univ.)	Agra
02.	Aligarh Muslim University	Aligarh
03.	Allahabad University	Allahabad
04.	Andhra University	Waltair
05.	Anna University	Chennai
06.	Assam University	Silchar
07.	Banaras Hindu University	Varanasi
08.	Bangalore University	Bangalore
09.	Berhampur University	Berhampur
10.	Bhagalpur University	Bhagalpur
11.	Bharthidasan University	Tirucherapalli
12.	Bhavnagar University	Bhavnagar
13.	Bombay University	Mumbai
14.	Burdwan University	Burdwan
15.	Calcutta University	Kolkata
16.	Calicut University	Calicut
17.	Chaudhury Charan Singh University	Meerut
18.	Cochin University	Cochin
19.	Cochin University of Science & Technology	Cochin
20.	Delhi University	Delhi
21.	Devi Ahilya University	Indore

22.	Dr. B.A.M. University	Aurangabad
23.	G.B. Pant University	Pantnagar
24.	Gauhati University	Guwahati
25.	Gujarat University	Ahmedabad
26.	Gulbarga University	Gulbarga
27.	Guru Ghasidas University	Bilaspur
28.	Guru Nanak Dev University	Amritsar
29.	Himachal Pradesh University	Simla
30.	HNB Garhwal University	Srinagar Garhwal
31.	Hyderabad University	Hyderabad
32.	Indra Prastha University (GGSIPU)	New Delhi
33.	Indira Gandhi National Open University (IGNOU)	New Delhi
34.	Jamia Milia Islamia University	New Delhi
35.	Jammu University	Jammu
36.	Jawaharlal Nehru University	New Delhi
37.	Kalyani University	Kalyani
38.	Karnataka University	Dharwad
39.	Kashmir University	Srinagar
40.	Kiel University	Germany
41.	Kurukshetra University	Kurukshetra
42.	Kuvempu University	Shankaraghatta, Shimoga
43.	Lucknow University	Lucknow
44.	Ludwig Maximilian University	Munich, Germany
45.	M.D. University	Rohtak
46.	M.L. Sukhadia University	Udaipur
47.	M.S. University	Baroda
48.	Madras University	Chennai
49.	Mahatama Gandhi University	Kottayam
50.	Mangalore University	Mangalore
51.	Manipur University	Imphal
52.	Mannonmaniam Sundaranagar University	Tirunelveli
53.	Mysore University	Mysore
54.	Nagpur University	Nagpur
55.	North Carolina State University	USA
56.	North Eastern Hill University	Shillong
57.	North Maharashtra University	Nandurbar
58.	North Orissa University	Baripada
59.	Osmania University	Hyderabad
60.	Patna University	Patna
61.	Periyar University	Kerala
62.	Pondichery University	Pondichery
63.	Poona University	Pune
64.	Punjab Agricultural University	Ludhiana
65.	Punjab University	Chandigarh

66.	Punjabi University	Patiala
67.	Rani Durgawati University	Jabalpur
68.	S.K. University	Anantpur
69.	Stuttgart University	Germany
70.	Saurashtra University	Rajkot
71.	Technical University	Darmstadt, Germany
72.	Tezpur University	Tezpur
73.	Shivaji University	Kolhapur
74.	University of Maryland	Maryland, USA
75.	University of Notre Dame	Notre Dame, USA
76.	University of Rajasthan	Jaipur
77.	Utkal University	Bhubaneswar
78.	Vikram University	Ujjain
79.	Vishwa Bharti University	Bolpur
80.	West Bengal University of Technology	Kolkata
(B)	COLLEGES - (53)	
01.	Anand Mohan College	Kolkata
02.	Armed Forces Medical College	Pune
03.	Bareilly College	Bareilly
04.	Belonia College	Belonia, Tripura
05.	Beant College of Eng. and Technology	Gurdaspur
06.	Bharatiya Jain Sanghatana College	Pune
07.	Bhiwandi College	Mumbai
08.	BNN College	Bhivandi, Madhya Pradesh
09.	CHM College	Ulhasnagar, Maharashtra
10.	College of Engineering and Technology	Aligarh
11.	DAV College	Mumbai
12.	DAV College	Jalandhar
13.	DBS College	Dehradun
14.	Doodhsakhar Mahavidyalaya	Bidri, Maharashtra
15.	Ewing Christian College	Allahabad
16.	Govt. Art College	Rajamundri, Andhra Pradesh
17.	Govt. College	Ajmer
18.	Govt. College	Mehendragarh
19.	Govt. College	Kota
20.	Govt. MSJ College	Bharatpur
21.	Goyalpara College	Goyalpara, Assam
22.	Gurudas College	Kolkata
23.	Jai Hind College	Mumbai
24.	Kandi Raj College	Murshidabad, (WB)
25.	Kongunadu Arts & Science College	Coimbatore
26.	Koshi College	Khagaria, Bihar
27.	Mahila Degree College	Lucknow

28.	Marwari College	Ranchi
29.	M.M.H.College	Ghaziabad
30.	MR College	Vizianagram (AP)
31.	Malviya Regional Engg. College	Jaipur
32.	Nayagarh College	Nayagarh
33.	Nizam College	Hyderabad
34.	NSAM College	Mangalore
35.	Orissa Univ. of Agriculture & Tech.	Bhubneshwar
36.	Poorna Prajna College	Udipi, Karnataka
37.	Punjab Engineering College	Chandigarh
38.	RBS College	Agra
39.	RD & DJ College	Munger, Bihar
40.	Regional Engineering College	Kurukshetra
41.	RPG College	Ratnagiri
42.	School of Physical Sciences	Nanded, Maharashtra
43.	School of Tech. & Applied Sciences	Kottayam, Kerala
44.	SDM College	Ujire, Mysore
45.	Sharanabasaveshwar College of Science	Gulbarga
46.	S.N.College	Kollam
47.	Sri Bhuvanendra College	Karkala
48.	St. Edmunds College	Shillong
49.	S.V. College	Aligarh
50.	Swami Shardhanand College	New Delhi
51.	University College	Kurukshetra
52.	University College of Science & Tech.	Kolkata
53.	Vaish College	Rohtak

(C) OTHER INSTITUTIONS – (58)

01.	AICTE	New Delhi
02.	Amity School of Engineering	New Delhi
03.	Bhabha Atomic Research Centre	Mumbai
04.	C.E.E.R.I.	Pilani
05.	CAT	Indore
06.	CCMB	Hyderabad
07.	Centre for Superconductivity research	USA
08.	CSNSM, Orsay Cedex	France
09.	D.M.R.L.	Hyderabad
10.	Dayalbagh Educational Institute	Agra
11.	Defence Laboratory	Jodhpur
12.	Defence Research & Development Orgn.	Dehradun
13.	Genetic Institute of Manufacturing Technology	Singapore
14.	GSI	Germany
15.	Harcourt Butler Technological Institute	Kanpur
16.	ICGEB	New Delhi

17.	I.G.C.A.R.	Kalpakkam
18.	Indian Institute of Science	Bangalore
19.	Indian Institute of Technology	Chennai
20.	Indian Institute of Technology	Kanpur
21.	Indian Institute of Technology	Kharagpur
22.	Indian Institute of Technology	Mumbai
23.	Indian Institute of Technology	New Delhi
24.	Indian Institute of Technology	Roorkee
25.	Indian Space Research Organisation	Bangalore
26.	INFN-LEGNARO	Italy
27.	INMAS	New Delhi
28.	Institute of Basic Sciences	Agra
29.	Institute of Materials Science	Bhubaneswar
30.	Institute of Physics	Bhubaneswar
31.	Institute of Science	Mumbai
32.	IUC-DAEF, Calcutta Centre	Kolkata
33.	IUC-DAEF, Indore Centre	Indore
34.	Joint Inst. of Nuclear Research	Dubna, Russia
35.	KIIT	Bhubaneswar
36.	Massachusetts Inst. of Technology	USA
37.	Malaviya National Institute of Technology	Jaipur
38.	Nanocrystals Technology	USA
39.	National Academy of Science	Allahabad
40.	National Institute of Oceanography	Goa
41.	National Institute of Technology	Kurukshetra
42.	National Institute of Technology	Raurkela
43.	National Institute of Technology	Silchar
44.	National Institute of Technology	Srinagar
45.	National Institute of Technology	Tiruchirapalli
46.	National Physical Laboratory	New Delhi
47.	NCCCM/BARC	Hyderabad
48.	NCAOR	Goa
49.	NCSR	France
50.	Oak Ridge National Laboratory	USA
51.	Physical Research Laboratory	Ahmedabad
52.	Saha Institute of Nuclear Physics	Kolkata
53.	Sant Longowal Institute of Technology	Sangrur
54.	SSPL	New Delhi
55.	Tata Institute of Fundamental Research	Mumbai
56.	Thapar Inst. Of Eng. & Technology	Patiala
57.	VECC	Kolkata
58.	Wadia Institute of Himalayan Geology	Dehradun

6.2 M. SC. ORIENTATION PROGRAMME

N. Madhavan

The two-week M. Sc. orientation programme has been providing hands-on training in fields associated with accelerator based research to selected M. Sc. students by way of short projects. Those M. Sc. students desirous of taking part in this programme may get their applications forwarded through their department giving the relevant details such as the marks in all the exams till date, broad field of interest and the period convenient to them. Efforts are made to give chance to students from various parts of the country.

M. Sc. Orientation programme is conducted by IUAC to encourage interested students to supplement their knowledge and to motivate them to continue their career in science. However, this programme is not conducted to satisfy the M. Sc. credit requirements of any university department. Due to large number of applicants every year than we can handle, we regret that all applicants may not be selected for project work. In order to provide chance for students from various universities, students from the same universities may be given less priority for consideration in successive years.

6.3 LIBRARY

Priyambada Nayak

Salient features

Working hours:	Round the clock, all days of the week
Total Books:	~2715 (broadly covering the subjects Nuclear Physics, Materials Science, Nanotechnology, Electronics, Computer Science, Radio-biology, Radiation Physics, Vacuum Instrumentation, Cryogenics, Atomic Physics, Mathematical Physics, Quantum Mechanics, Astrophysics etc.
New Books added in 2009-10:	55
Current Journals:	52
Bound Journals:	~7800
Laboratory Reports:	~900 (from nearly 50 labs)
Reprints/Photocopies:	~700

Newsletters, House magazines etc.	50
Databooks, Manuals etc.:	~550
Ph.D. Thesis:	124
Clientele:	Apart from IUAC staff and students, the library is consulted by students, teaching and research staff from over 100 academic and research institutions in different parts of the country.

The technical reports and technical memos of various projects carried out at IUAC are also compiled and kept in the library for reference purpose. Web-based OPAC and library cataloging software package has been installed for the computerization of library documents. Apart from the print journals, online journals & archives are also being subscribed by the library. The library is a member of UGC-INFONET, INDEST-AICTE Consortium and more than 4000 journals are being accessed on-line through these facilities. The library is open round the clock. Hence, automatic monitoring system has been installed.

6.4 THE PHD TEACHING PROGRAMME

A.Mandal

The two semester Ph.D programme for research students of IUAC, outside university students and for new scientist trainees of IUAC continued to run well during this year. Overwhelming response from different universities shows the positive benefit of the programme to the community of students starting fresh research at different universities throughout the country. The programme consists of two semesters- one during January-May in which courses on Experimental Physics and Accelerator Physics are offered and the second one during August-December in which courses on Computers in instrumentation & data acquisition and advanced courses on Materials Science and Nuclear Physics were offered. Each course consists of five modules. Each module consists of 8 lectures of one and half hour duration and the credit awarded is 1.0. One course on Engineering Drawing is also offered as a part of the Experimental Physics to give basic understanding of drawing. About 20 students from different universities, colleges participated in each module. Seven students from School of Physical sciences, JNU attended the course on Experimental Physics.

A special lecture series on Nanomaterials by Prof. Pivin from Orsay, France was also offered this year. A large number of students attended these special lecture series and they appreciated the subject contents and teaching.

One month before each semester, a poster containing details of the course is printed and circulated to physics department of various universities and colleges, inviting application for attending the courses. The programme is also put on our website. Accommodation and TA/DA are provided to the selected participants.

6.5 ACADEMIC ACTIVITIES HELD IN 2009-10

27 Apr. - May 2	Workshop on Innovative Experiments (Contact person : B. P. Ajithkumar, IUAC)
12-13 May	Workshop on Oxide materials at Aligarh (Contact person : Ravi Kumar, IUAC)
29-30 May	Physics with HYRA (Contact person : N. Madhavan, IUAC)
6 -7 July	User Workshop : Accelerator users' presentations
8 July	46th AUC meeting
9 -10 July	LEIBF Workshop (Contact person : Praveen Kumar, IUAC)
3 August	Ph.D programme, Fall semester starts
10-12 August	IUAC Academic Workshop
28 August	Acquaintance Programme at Hissar (Contact person : S. Chopra , IUAC)
21-26 September	Workshop on Innovative Experiments (Contact person : B.P. Ajithkumar, IUAC)
30 September	Special Poster Exhibition on 150th anniversary of Sir Jagdish Chandra Bose and birth centenary year celebrations of Dr. Homi Jehangir Bhabha (Contact Persons: V. Patel, Sarvesh Kr. & A Mandal, IUAC)
20 October	Acquaintance Programme at Vellore (Contact person : S. Muralithar, IUAC)
23 October	Acquaintance Programme at Udaipur (Contact person : Rajeev Mehta, IUAC)
31 October	Workshop on Simulation Studies and Large Scale Computing (Contact person : S. Mookherjee, IUAC)
18-20 November	Conference on Low background Radiation measurement (Contact person : R.G. Sonkawade, IUAC)
17 -18 December	User Workshop : Accelerator users' presentations
19 December	Foundation Day & 47th AUC meeting
14 January, 2010	Ph.D programme, Spring semester starts
22-27 February	Workshop on Innovative Experiments (Contact person : B. P. Ajithkumar, IUAC)
27 February	National Science day (Contact person : K. Asokan / A.Sarma, IUAC)

5 March

Silver Jubilee Celebrations of IUAC

8 March

Acquaintance Programme at Vishakhapatnam

(Contact person : Rakesh Kumar, IUAC)

15/08/2009	होमी भाभा शताब्दी के अवसर पर "डॉ. होमी भाभा का कार्य एवं जीवन वृत्तांत"	अन्तर विश्वविद्यालय त्वरक केन्द्र
04/09/2009	शिक्षक दिवस व्याख्यान डा0 सर्वपल्ली राधाकृष्णन का जीवन	श्री पंकज कुमार, अन्तर विश्वविद्यालय त्वरक केन्द्र
22/09/2009	आचार्य जगदीशचन्द्र बोस की 150 वीं जयंती वर्ष के अवसर पर विशेष व्याख्यान "विश्व विज्ञान का भारतीय ध्रुव तारा:- आचार्य जगदीश चन्द्र बोस"	प्राध्यापक दिनेशकांत पंडया, (भौतिकी विभाग), भारतीय प्रौद्योगिकी संस्थान, नई दिल्ली

6.6 FORTHCOMING EVENTS: 2010

- April 22 **Workshop on Radiation Biology with Ion Beam**
(Contact person : A.Sarma, IUAC)
- April 27-28 **Workshop on High Performance Computing**
(Contact person : S. Mookherjee, IUAC)
- May 3-8 **Workshop on Innovative experiments**
(Contact persons : B.P. Ajithkumar & K. Asokan, IUAC)
- June 25 **Acquaintance Programme at Mysore** (Mysore University)
(Contact person : Fouran Singh, IUAC)
- July 6-7 **User Workshop:** Accelerator users' presentations for beam time proposals
- July 8 **48th AUC meeting**
- July 19-23 **IUAC Academic Workshop**
- August 3 **Workshop on Bio-Material with Ion Beam**
(Contact person : D.K Avasthi, IUAC)
- August 5 Ph.D programme, **Fall semester** starts
- September 6- 11 **Workshop on Innovative experiments**
(Contact persons : B.P. Ajithkumar & K. Asokan, IUAC)
- September 11 **Acquaintance Programme at Agartala** (Tripura University)
(Contact person : D. Kabiraj, IUAC)
- October 7-9 **Workshop on Swift Heavy Ions in Materials Engineering & Characterization** (Contact person : A. Tripathi, IUAC)
- October 28-29 **Workshop on Nuclear Physics with LINAC**
(Contact person : N.Madhavan, IUAC)
- November 13 **Acquaintance Programme at Lucknow** (Lucknow University)
(Contact person : Saif A. Khan, IUAC)
- December 17-18 **User Workshop :** Accelerator users' presentations for beam time proposals
- December 19 **Foundation Day & 49th AUC meeting**

6.7 LIST OF SEMINARS CONDUCTED IN THE YEAR - 2009-10

	Date	Title	Name & Affiliation
01.	06-04-09	Brief Review of ITEP Linac	Dr. A. Kolomiets (ITEP, Moscow)
02.	24-04-09	Schrödinger cat states and Bose Einstein condensate on periodic magnetic film microstructures	Dr. Mandeep Flora Singh (Swinburne University of Technology, Victoria , Australia.)
03.	30-04-09	Renaissance in Nuclear Science	Dr. Amit Roy (IUAC)
04.	06-05-09	New Experimental Results and Technical Developments from IUAC and GSI	Prof. Hans Juergen Wollersheim GSI, Germany
05.	03-06-09	Galileo & The Rise of Science	Prof. P.R. Viswanath (Indian Institute of Astrophysics)
06.	20-07-09	Highlights of HIAT 2009 Conference	Dr. Amit Roy (IUAC, New Delhi)
07.	30-07-09	The Rib Developmental Activities at VECC- Its Goal for Accelerator Development and Utilization in Basic Research	Dr. Alok Chakrabarti (VECC, Kolkata)
08.	24-08-09	Present Status of Micro Channel Plate	Mr. Regis Turck (M/S Photonis , USA)
09.	07-10-09	Nuclear spectroscopy at the limits: Stretching the envelope of shells and shapes	Dr. Sujit Tandel (National Nuclear Data Center, Brookhaven National Laboratory)
10.	22-10-09	Analysis of Chromosomal Aberrations Involving Human Chromosome 1 and 2 in Interphase- and Metaphase – Spreads after ⁶⁰ Co Gamma-Irradiation	Dr. Rupak Pathak (Armed Forces Radiobiology Research Institute [AFRRI], USA)
11.	05-11-09	TRACK: The New Beam Dynamics Code	Dr. V.N. Aseev (INR of RAS, Moscow)
12.	09-11-09	Ion Beam in Nanostructuring	Dr. P. Karmakar (VECC, Kolkata)
13.	26-11-09	Photo-absorption studies on gas phase biological chromophores	Dr. Jyoti Rajput (University of Aarhus, Aarhus, Denmark)
14.	27-11-09	Design and Fabrication of Tailored Nanocomposites for Advanced Technology Applications	Dr. Abhijit Biswas (Center for Nanoscience and Technology, University of Notre Dame, Notre Dame, Indiana, USA)

15.	30-11-09	Electronic properties of two dimensional electronic systems (graphene and graphite) in magnetic quantum limit	Dr. Amit Kumar (LNCMI ,INSA , FRANCE)
16.	04-12-09	Detection of rare decays of super heavy nuclei: method of “active correlations”	Dr. Yuri. S. Tsyganov (FLNR, JINR, Dubna, Russia.)
17.	11-12-09	Properties of Nanowire Based Devices	Prof. Rainer Adelung Kiel University
18.	15-12-09	Narrow band gap material for ultra-low power applications	Prof. Sylvain Bollaert IEMN, France
19.	21-12-09	Low energy nuclear reactions with double-solenoid based RNB	Prof. Valdir Guimaraes University of Sao Paulo- Brazil
20.	11-01-10	Atomic Physics Tests of Fundamental Symmetries at Berkeley	Prof. Dmitry Budker Univ. of California at Berkeley
21.	22-02-10	Chemistry and Physics of Naturally occurring Nanomaterials and their Relevance to Earth, Planetary and Environmental Sciences	Dr. G. Parthasarathy National Geophysical Research Institute, Hyderabad

6.8 LIST OF PUBLICATIONS (2009-2010)

A. NUCLEAR PHYSICS

- Fine structure dips in the fission fragment mass distribution for the $^{238}\text{U}(^{18}\text{O}, f)$ reaction**, L.S.Danu, D.C.Biswas, A.Saxena, A.Shrivastava, A.Chatterjee, B.K.Nayak, R.G.Thomas, R.K.Choudhury, R.Palit, I.Mazumdar, P.Datta, S.Chattopadhyay, S.Pal, S.Bhattacharya, S.Muralithar, K.S.Golda, R.K.Bhowmik, J.J.Das, R.P.Singh, N.Madhavan, J.Gerl, S.K.Patra, L.Satpathy, Phys.Rev. C 81, 014311 (2010)
- Band structures in near spherical ^{138}Ce** , T.Bhattacharjee, S.Chanda, S.Bhattacharyya, S.K.Basu, R.K.Bhowmik, J.J.Das, U.Datta Pramanik, S.S.Ghugre, N.Madhavan, A.Mukherjee, G.Mukherjee, S.Muralithar, R.P.Singh, Nucl.Phys. A825, 16 (2009)
- Seven-quasiparticle bands in ^{139}Ce** , S.Chanda, T.Bhattacharjee, S.Bhattacharyya, A.Mukherjee, S.K.Basu, I.Ragnarsson, R.K.Bhowmik, S.Muralithar, R.P.Singh, S.S.Ghugre, U.Datta Pramanik, Phys.Rev. C 79, 054332 (2009)
- Experimental study of nuclei in the vicinity of the “island of inversion” through the fusion-evaporation reaction**, R.Chakrabarti, S.Mukhopadhyay, Krishichayan, A.Chakraborty, A.Ghosh, S.Ray, S.S.Ghugre, A.K.Sinha, L.Chaturvedi, A.Y.Deo, I.Mazumdar, P.K.Joshi, R.Palit, Z.Naik, S.Kumar, N.Madhavan, R.P.Singh, S.Muralithar, B.K.Yogi, U.Garg, Phys.Rev. C 80, 034326 (2009)

5. **Effect of $\pi g_{9/2}$ and $\nu g_{9/2}$ alignments in the shape of ^{75}Br from lifetime measurement**, G.Mukherjee, P.Joshi, R.K.Bhowmik, S.N.Roy, S.Dutta, S.Muralithar, R.P.Singh, Nucl.Phys. A829, 137 (2009)
6. **Shape evolution of the highly deformed ^{75}Kr nucleus examined with the Doppler-shift attenuation method**, T.Trivedi, R.Palit, D.Negi, Z.Naik, Y.-C.Yang, Y.Sun, J.A.Sheikh, A.Dhal, M.K.Raju, S.Appannababu, S.Kumar, D.Choudhury, K.Maurya, G.Mahanto, R.Kumar, R.P.Singh, S.Muralithar, A.K.Jain, H.C.Jain, S.C.Pancholi, R.K.Bhowmik, I.Mehrotra, Phys.Rev. C 80, 047302 (2009)
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C. OTHERS

1. **Superconductivity and Cryogenics for Linear Accelerator Programme at IUAC, New Delhi**, T.S. Datta, S. Ghosh, J. Antony, S. Babu, J. Chacko, A. Choudhury, G.K.

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 8. **A compact pulse shape discriminator module for large neutron detector arrays**, S. Venkataramanan, Arti Gupta, K.S. Golda, Hardev Singh, Rakesh Kumar, R.P. Singh, R.K. Bhowmik, *Nuclear Instruments and Methods in Physics Research A* 596 (2008) 248–252
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 10. **Experimental confirmation of circular Rydberg states with projectile-like ions**, T. Nandi, *J. Phys. B* 42 (2009) 125201.
 11. **Measurement of Wakefield intensity**, T. Nandi and B.P. mohanty, *J. Phys. B* 42 (2009) 225402.
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6.9 LIST OF TECHNICAL REPORTS / TECHNICAL MEMOS (2009-10)

A. List of Technical Reports

	TITLE	AUTHORS	CATEGORY	REFERENCE NO.
01.	Installations of Port aligner with Offset Faraday cup	Pankaj Kumar, Ashok Kothari, S. Ojha, P. Barua, S. Gargari, R. Joshi and S.Chopra	Development	IUAC/TR/PK/2009-10/01
02.	Testing of 10kW RF amplifier.	U.K. Rao, Y. Mathur, B.K. Sahu, R. Hariwal & B.P. Ajith Kumar	Instrumentation	IUAC/TR/UKR/2009-10/02
03.	The Successful Performance Test of Eight Resonators in Linac#1 along with SB & RB Resonators.	P. Patra, S. Ghosh, R. Mehta, G.K. Chowdhury, A. Rai, B.K.Sahu, A. Pandey, D.S. Mathuria, R.N. Dutta, D. Kanjilal and A.Roy	Accelerator	IUAC/TR/PP/2009-10/03
04.	Successful acceleration of six different beams through all eight resonators of the first linac cryostat along with superbuncher and rebuncher	S.Ghosh, R.Mehta, G.K. Chowdhury, A.Rai, P.Patra, B.K.Sahu, A. Pandey, R.N. Dutt, D.S. Mathuria, J.Chacko, A.Chowdhury, S.Kar, S.Bahu, M.Kumar, S.S.K. Sonti, K.K. Mistry, J.Antony, J. Zacharias, A.Sarkar, R. Joshi, P.N. Prakash, T.S.Datta, D.Kanjilal and A.Roy	Accelerator	IUAC/TR/SG/2009-10/04
05.	Four Channel Tesla Meter Interface With Camac using Micro Controller	R.Ruby Santhi & Ajith Kumar B.P.	Instrumentation	IUAC/TR/RRS/2009-10/05
06.	Provision of Air-Conditioning System for UPS Room	A.J. Malyadri, Bishamber Kumar, U.G. Naik		IUAC/TR/AJM/2009-10/06
07.	Low Power RF Testing of Prototype IH-type Drift Tube Linac at IUAC	R.V.Hariwal, R.Mehta, B.P.Ajith Kumar, J.Zakarias, Sugam Kumar, C.P. Safvan	High Current Injector (HCI)/ Drift Tube Linac	IUAC/TR/RVH/2009-10/07
08.	Geiger Muller Counter Accessory for Phoenix	Parmanand Singh, V.V.V. Satyanarayana, Ajith Kumar B.P., Rajesh Kumar, S.K. Suman	Instrumentation	IUAC/TR/PMS/2009-10/08
09.	Isotopic Tin Target Fabrication at IUAC	Amandeep Singh, Aradhya Shukla, Dharmendra Singh, Abhilash.S.R, D.Kabiraj and D.K. Avasthi	Development	IUAC/TR/AS/2009-10/09

	TITLE	AUTHORS	CATEGORY	REFERENCE NO.
10.	Cold Test Of QWR#I06 With the New Remote Control Interface For Slow Tuner In STC	R.N.Dutt, S.Ghosh, G.K. Chaudhary,A.Rai, P.Patra, D.S.Mathuria, P.Pandey, B.K.Sahu, D.Kanjilal,A.Roy	Accelerator	IUAC/TR/RND/2009-10/10
11.	Implementation and testing of piezoelectric based control scheme with superconducting resonators QWR#12 in the simple test cryostat	B.K. Sahu, R.Ahuja, Kundan singh, G.K. Chaudhary, A.Rai, P.Patra, A.Pandey, D.S. Mathuria, R.N. Dutt, S.Ghosh, D.Kanjilal, A.Roy	Accelerator Technology	IUAC/TR/BKS/2009-10/11
12.	INGA-LEPS Electronics Module	S. Venkataramanan, Arti Gupta, S.Murlithar, R.K. Bhowmik	Instrumentation	IUAC/TR/SV/2009-10/12
13.	Technical report on Fission detector Electronics for NAND	S. Venkataramanan, Akhil Jhingan, Arti Gupta	Instrumentation	IUAC/TR/SV/2009-10/13
14.	Coil Design and Assembly of Magnetic Quadrupole Doublet	Sarvesh Kumar, S.K. Saini, A. Mandal	Beam Transport Lab	IUAC/TR/SK/2009-10/14
15.	Analysis of Ar Ion Beam for new LEIBF	Sarvesh Kumar, A. Mandal	Beam Transport Lab	IUAC/TR/SK/2009-10/15
16.	RFQ to DTL Matching Section of High Current Injector	Sarvesh Kumar, A. Mandal	Beam Transport Lab	IUAC/TR/SK/2009-10/16
17.	Medium Energy Beam Transport Section of HCI as per Old Design	Sarvesh Kumar, A. Mandal	Beam Transport Lab	IUAC/TR/SK/2009-10/17
18.	Medium Energy Beam Transport Section of HCI as per New Design	Sarvesh Kumar, A. Mandal	Beam Transport Lab	IUAC/TR/SK/2009-10/18

B. List of Technical MEMOS

	TITLE	AUTHORS	CATEGORY	REFERENCE NO.
01.	Repairing of Magnet Interlock Module for PKDELIS	Y. Mathur, G.O. Rodrigues, U.K. Rao	Instrumentation	IUAC/TM/YM/2009-10/01
02.	Repairing of of Neutron Survey and Area Monitors	Birendra Singh, S.P. Lochab, Rajan Joshi	Health Physics	IUAC/TM/BS/2009-10/02
03.	Maintenance of X-Ray tube shutter of the insitu x-ray diffractometer system	P.K. Kulriya	Material Science	IUAC/TM/PKK/2009-10/03
04.	Line Current Imbalance Problem in 23XL Screw Chiller	A.J. Malyadri, Bishamber Kumar, MG#2		IUAC/TM/AJM/2009-10/04

6.10 TEACHING LAB ACTIVITIES

Paramanand Singh, V.V.V.Satyanarayana, B.P. Ajithkumar and K.Asokan

During this year three workshops were conducted outside IUAC, of which two were within India (St.Edmond's College, Shillong and Ahmednagar College, Ahmednagar, Maharashtra) and one outside India (UPSI, Malaysia). Three nos. of "Six day training program" were conducted at IUAC. Western Regional Instrumentation Centre, Mumbai also conducted a three day training program on Phoenix for the college teachers.

Some new accessories for Phoenix Interfaces have been developed. A colorimeter, developed at WRIC has been modified to work as an accessory to Phoenix. A 256 channel MCA for analyzing the energy of nuclear radiation has been developed.