

FINAL PROGRAMME

TECHNICAL SESSIONS

18.01.2009 (Sunday)

- 14:00-15:30 Felicitation function, distribution of certificates to the students, interaction of students with delegates
15:30-16:00 Dance program by Dr. Indrani Ray and associates
16:00-18:00 Tea and registration
19:00-20:00 Welcome Dinner

19.01.2009 (Monday)

9:30-11:00 **Inaugural Session**

- 09:30-09:45 Welcome Address : B. Sinha (Director, SINP)
09:45-10:00 Prospects of Material Science &
Positron Annihilation Studies: S. Banerjee (Director, BARC)
10:00-10:15 Address by the Chairman, ICPA-15: T. Hyodo
10:15-10:50 Keynote Address : Opportunities for science and technology
with many positrons : A. P. Mills Jr.

11:00-11:30 High Tea

11:30-13:30 **Session I : Plenary Talk**

- 11:30-12:10 SI-PT1 C. M. Surko
Resonances and Attachment in Positron-Molecule Interactions
12:10-12:50 SI-PT2 T. Hyodo
The Quenching of ortho-Positronium (o-Ps)
12:50-13:30 SI-PT3 C. S. Sundar
Defect evolution in steels : Insights from positron studies

13:30-14:30 LUNCH

14:30-16:15 **Session II : Parallel Session (Invited talk/Oral Presentation)**

Fundamental Studies (F)	Metal (M)
Invited Talk	Invited Talk
14:30-14:55 SII-I1 A. S. Ghosh <i>Positron and Positronium Physics</i>	14:30-14:55 SII-I5 J. Kuriplach <i>Calculation of Positron Response in Complex Metallic Systems</i>
14:55-15:20 SII-I2 Y. Nagashima <i>Emission of Positronium Negative Ions from Cs-Deposited W(100) surfaces</i>	14:55-15:20 SII-I6 C. Hugenschmidt <i>Metals and Oxides Studied by Coincident Doppler-</i>
15:20-15:45 SII-I3 S. Adhikari <i>Positronium Interaction and its Bose-Einstein Condensation</i>	<i>Broadening Spectroscopy at the NEPOMUC positron beam facility</i>
15:45-16:00 SII-I4 A. P. Mills Jr. <i>Optical Experiments on Positronium and di-Positronium molecules</i>	15:20-15:45 SII-I7 A. Somoza <i>Recent advances in the study of light alloys by positron annihilation spectroscopy</i>
Oral Presentation	Oral Presentation
16:00-16:15 SII-O1 F. O. Schumann <i>Correlated positron-electron pair emission from surfaces</i>	15:45-16:00 SII-O2 A. Dupasquier <i>Positron lifetime evolution during natural ageing in Al-Zn-Mg</i>
	16:00-16:15 SII-O3 V. Ragunathan <i>Positron annihilation studies on ⁹Cr Reduced Activation Ferritic/Martensitic steels</i>

16:15-16:30 TEA

16:30-17:30 **Session III : Poster Session** : (P1 to P27, AP1 to AP3)

18:00-20:00 CUTURAL PROGRAMME and DINNER

20.01.2009 (Tuesday)

9:30-11:00 Session IV : Memoir lectures

- 09:30-09:50 SIV-M1 A. P. Mills Jr.
John A. Wheeler's lessons to an undergraduate student
- 09:50-10:10 SIV-M2 Sibaji Raha.
John Archibal Wheeler - Texas years.
- 10:10-10:30 SIV-M3 A.H.Weiss
Memory on Canter
- 10:30-10:50 SIV-M4 G. Amarendra
Tungsten moderator studies at Brandeis with Karl Canter
- 10:50-11:20 Discussion on Ps state (A. P. Mills Jr., S. Adhikari, Y. Nagashimha)

11:20 – 12:00 TEA / Conference Photograph

12:00-13:00 Session V: Plenary Talk / Oral Presentation

- 12:00-12:40 SV-PT4 Krause Rehberg
News of the EPOS Project & A positron study of the hydrogen ion-cutting process in wide band gap Compound semiconductors
- 12:40-12:55 SV-AO1 S. Asai
Precise measurements on HFS of positronium

13:00-14:00 LUNCH

14:00-16:15 Session VI : Parallel session (Invited talk/Oral Presentation)

Polymer (P)	Metal (M)
Invited Talk	Invited Talk
14:00-14:25 SVI-I8 V. P. Santarovich <i>Positron annihilation lifetime data and actual porosity of polymers</i>	14:00-14:25 SVI-I12 G. Amarendra <i>Positron Annihilation studies on bulk Cobalt silicides</i>
14:25-14:50 SVI-I9 S. Tagawa <i>Positron, electron, X ray and EUV beam applications to resist materials</i>	14:25-14:50 SVI-I13 Y. Shirai <i>Studies of vacancies and interstitial spaces in metals and metallic compounds by using positron annihilation spectroscopy</i>

14:50-15:15 SVI-I10 H.F.M. Mohamed <i>Free Volume and Permeability in Nafion Membranes</i>	14:50-15:15 SVI-I14 S. B. Dugdale <i>Fermi surface studies by positron annihilation</i>
15:15-15:40 SVI-I11 Rajendra Prasad <i>Swift Heavy Ion induced modification in free volume in polymeric materials by Positron Annihilation Lifetime and Doppler Broadening Spectroscopy</i>	Oral Presentation
Oral Presentation	15:15-15:25 SVI-O4 J. Kansil <i>Defect structure of Fe-Al system</i>
15:40-16:00 SVI-O15 R. Zaleski <i>Positronium lifetime in porous polymers</i>	15:25-15:35 SVI-O5 R. S. Brusa <i>Hydrogen sorption kinetics in Nb-doped Mg : role of Nb clustering and of open volume defects formation</i>
16:00-16:20 SVI-O16 R. Kumar <i>Nano scale free volume study of 70 MeV Carbo C⁵⁺ ion induced modification in Makrofol-KL polycarbonate by positron annihilation</i>	15:35-15:45 SVI-O6 T. Toyama <i>Temperature dependencies of positron lifetime and of coincidence Doppler broadening on neutron-irradiated Fe-Cu and Fe-Cu-Mn model alloys of nuclear reactor pressure vessel steels</i>
	15:45-15:55 SVI-O7 M. Biasini <i>Positron Annihilation studies of 5f electron systems</i>
	15:55-16:05 SVI-O8 M. Maekawa <i>Observation of stress corrosion cracking using positron microprobe</i>

16:15- 16:30 TEA

16:30-17:30 **Session VII : Poster session** (P28 to P53 and P89 to P93)

18:00-20:00 Banquet Dinner

21.01.09 (Wednesday)

9:30-12:30 **Session VIII: Plenary/ Invited Talk : Biological Aspects**

- 09:30-10:10 SVIII-PT5 Y. C. Jean
Biological and Medical Applications of Positron Annihilation Spectroscopy
- 10:10-10:30 SVIII-I15 M. J. Brunjer
Positron Scattering from Molecules
- 10:30-10:50 TEA
- 10:50-11:30 SVIII-I16 Suleman Surti (PET special)
Positron Emission Tomography: Basic principles, recent technical advancements, and future directions
- 11:30-12:10 SVIII-I17 R. K. Bhandari
Setting up of a 30 MeV, High Current Cyclotron Facility in Kolkata
- 12:10-12:30 SVIII-I18 V. M. Byakov
Detection of Carcinogens by Means of PAL Spectroscopy
- 12:30-13:30 LUNCH
- 13:30 Excursion**

22.01.2009 (Thursday)

9:30-11:10 **Session IX : Parallel session (Invited Talk)**

Nano material (N)		Beam application (A)	
09:30-09:55	SIX-I19 M. Hasegawa <i>Positron and the Other Methods for Nanostructural Studies of Nuclear Reactor Materials</i>	09:30-09:55	SIX-I23 P.G. Coleman <i>What have we learned from positron beam studies of vacancy evolution in ion-implanted silicon?</i>
09:55-10:20	SIX-I20 S.W.H. Eijt <i>Meeting challenges in Nano-materials for sustainable energy applications using high-resolution positron methods</i>	09:55-10:20	SIX-I24 B. Barbiellini <i>Positronium in Quartz: Surface and Bulk</i>
10:20-10:45	SIX-I21 G. Brauer <i>Characterization of ZnO Nanostructures: A Challenge to Positron Annihilation Spectroscopy and other Methods</i>	10:20-10:45	SIX-I25 J. Sullivan <i>Positron beam experiments at the Australian Positron Beamline Facility</i>
		10:45-11:10	SIX-I26 Y.K. Vijay <i>SHI and Neutron induced defects characterized by positron lifetime spectroscopy</i>

10:45-11:10 SIX-I22 P. Mascher <i>Integration of PAS in the Characterization of Nano-structured Materials Systems</i>	
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11:10-11:30 TEA

11:30-13:30 **Session X : Parallel session (Invited Talk/Oral Presentation)**

Porous Material (E)	Metal (B)
Invited Talk	Oral Presentation
11:30-11:55 SX-I27 Zs. Kajcsos <i>Critical Parameters of Positron and Positronium Annihilation in Grainy and Porous Solids: Ionic Crystals and Zeolites</i>	11:30-11:50 SX-O9 R. Ferragut <i>Analysis of coincidence Doppler broadening spectra in metal alloys</i>
11:55-12:20 SX-I28 K. Sato <i>Chemical analysis around free volumes in Ps-forming materials by AMOC spectroscopy</i>	11:50-12:10 SX-O10 V. Slugen <i>Microstructural Study of High Irradiated Reactor Steels</i>
12:20-12:45 SX-I29 L. Liskay <i>Ortho-positronium lifetime and time-of-flight spectroscopy of mesoporous silica films: porosity studies and the development of an efficient positron-positronium converter for antihydrogen production</i>	12:10-12:30 SX-O11 W. Puff <i>Positron annihilation studies of highly deformed aluminium alloys</i>
12:45-13:10 SX-I30 M.A. Alam <i>Fluids in nano-confinement and positron and positronium annihilation spectroscopies</i>	12:30-12:50 SX-O12 T. Troev <i>Positron lifetime studies of defects in α – Fe containing helium</i>
13:10-13:35 SX-I31 P. K. Pujari <i>Freezing of nanoconfined liquids: A positron annihilation study</i>	12:50-13:10 SX-O13 A.P. Srivastava <i>Positron Annihilation Spectroscopy in Nano-crystallized Iron Based Metallic Glass</i>
	13:10-13:30 SX-O14 E. A. Badawi <i>Thermal Vacancies Self-Diffusion Energy in 2024 Alloy by Positron Annihilation Lifetime Technique.</i>

13:30-14:30 LUNCH

14:30-16:35 **Session XI : Parallel session (Invited Talk/Oral Presentation)**

Liquid/gas (LG)	Advanced Technique/Industrial application (A)
Invited Talk	Invited Talk
14:00-14:25 SXI-I32 T. Hirade <i>Positron studies in ionic liquids</i>	14:00-14:25 SXI-I35 Alex Weiss <i>Positron Annihilation Induced Auger and Gamma Spectroscopy</i>
14:25-14:50 SXI-I33 S. V. Stepanov <i>Positronium Formation in Liquid Phase: Influence of Intratrack Reactions and Temperature</i>	14:25-14:50 SXI-I36 H. Schut <i>Depth profiling of sub-surfaces and interfaces with high intensity positron beams</i>
14:50-15:15 SXI-I34 K.Chandramani Singh <i>On the Study of Liquid Crystalline Materials using Positron Annihilation Spectroscopy</i>	14:50-15:15 SXI-I37 A. Kawasuso <i>Reflection High-Energy Positron Diffraction Study</i>
Oral Presentation	15:15-15:40 SXI-I38 N. Oshima <i>Three-dimensional positron lifetime imaging with a positron probe microanalyzer</i>
15:15-15:35 SXI-O34 P. Pikart <i>Doppler-broadening (DB) measurement of ionic liquids using a monoenergetic positron beam.</i>	15:40-16:05 SXI-I39 M. Doyama <i>Applications of Imaging Plates to the Study of Positron Science</i>
15:35-15:55 SXI-O35 K. Wada <i>Positronium lifetime in gaseous halogenated carbons</i>	Oral Presentation
	16:05-16:20 SXI-O22 D. Dutta <i>Correlation between pore architecture and ion transport in supported liquid membranes studied through positron re-emission spectroscopy</i>
	16:20-16:35 SXI-O23 F. Reurings <i>The Helsinki Positron Lifetime Beam—Present Status, Results & Experiences</i>

16:35-16:45 TEA

16:45-17:45 **Session XII : Poster Session** (P54 to P88 and P94 to P100)

18:00-19:00 Cultural Program

19:00-20:00 DINNER

23.01.2009 (Friday)

9:30-11:00 **Session XIII : Oral presentation** : Beam application / Advanced
Experimental Technique

09:30-09:40 SXIII-O24 G. Kontrym-Sznajd

What else for improvement of reconstructed densities?

09:40-09:50 SXIII-O25 C. Utfeld

A high-resolution spectrometer for Fermi surface studies

09:50-10:00 SXIII-O26 T. Oka

*Development of Transmission Positron Microscope Using a
Linac Based Positron Source*

10:00-10:10 SXIII-O27 P. Perez

A mini linac based positron source

10:10-10:20 SXIII-O28 W. Egger

*The Pulsed Low Energy Positron System PLEPS at
NEPOMUC: Present performance and future developments*

10:20-10:30 SXIII-O29 P. S. Naik

*Design and Implementation of a Fully Automated Floating
High Voltage-Supply System for Enhancing the Focussing and
Energy Control of a Sub-millimetre Scale Positron Beam*

10:30-10:40 SXIII-O30 N. G. Fazleev

Low energy positron probes of oxidation of the Cu(100) surface

11:00-11:15 TEA

11:15-13:00 **Session XIV : Oral Presentation**

Porous material(PS)/ Nano(N)/Polymer(P)	Superconductor/Semiconductor(S)
11:15-11:25 SXIV-O17 M. V. Deepa Urs <i>Spoliation of a Rigid Gas Permeable biopolymer contact lens by sodium chloride: A Free volume microprobe Study</i>	11:15-11:30 SXIV-O36 S. Kilpelainen <i>Defect Characterization of Heavily As and P Doped Si Epilayers</i>
11:25-11:35 SXIV-O18 E. E. Abdel-Hady <i>Temperature Effect on Free Volume of Polymethyl- pentene Studied by Positron Annihilation Technique</i>	11:30-11:45 SXIV-O37 M.F. Barthe <i>Determination of defects in 6H-SiC single crystals implanted with 20-MeV Au ions</i> 11:45-12:00 SXIV-O38 J. M. Maki <i>Effect of grown conditions on vacancy Defects in MOVPE grown AlN thin layers</i>

11:35-11:45	SXIV-O19	P.M.G. Nambissan <i>Mn doping in ZnO Nano- particles: Effects Investigated by Positron Lifetime and Doppler Broadening Studies</i>	
11:45-11:55	SXIV-O20	I. Prochazka <i>Defects in Nanostructured Ytria-Stabilized Zirconia Studied by Positron Annihilation Spectroscopy</i>	
11:55-12:55	SXIV-O21	S. K. Sharma <i>Defects dynamics in ZnO nanocrystals synthesised by solid state pyrolytic reaction: Positron annihilation spectroscopic studies</i>	
12:05-12:15	SXIV-O31	M. L. Chithambo <i>The combined use of time- resolved optical stimulation and positron annihilation to investigate mechanisms of luminescence in annealed synthetic quartz</i>	
12:15-12:25	SXIV-O32	M. P. Petkov <i>Positronium Formation and Annihilation in Silica Aerogels</i>	
12:25-12:35	SXIV-O33	S. Mariazzi <i>Dependence of pick-off rate from ortho-positronium thermalization</i>	

13:00-14:00 LUNCH

14:00- 15:00 VALEDICTORY SESSION