



European Conference on X-Ray Spectrometry

Program & General Information

20 – 25 June 2010
Figueira da Foz, Coimbra
PORTUGAL

<http://exrs2010.fis.uc.pt/>

Welcome

The Local Organizing Committee of the European Conference on X-ray Spectrometry (EXRS 2010) is pleased to welcome all participants in Figueira da Foz. About 290 delegates from 37 countries will have the opportunity to exchange ideas and knowledge related to X-ray Spectrometry, including fundamental aspects, technological developments, traditional and novel areas of application and interdisciplinary research.

We thank our sponsors and all the people that contributed for this event to take place. We hope that you enjoy your participation in EXRS 2010.

Joaquim M. F. dos Santos

EXRS 2010 Chair, on behalf of the Local Organizing Committee

Conference organization

EXRS 2010 is organized by GIAN (Atomic and Nuclear Instrumentation Group), Instrumentation Centre of the Physics Department, University of Coimbra, Portugal, in cooperation with the Atomic Physics Group of the University of Lisbon and the European X-ray Spectrometry Association.

E-mail: exrs2010@fis.uc.pt

Conference Web-page: <http://exrs2010.fis.uc.pt/>

Local Organizing Committee

Joaquim Santos, University of Coimbra - Chair
M. Luisa Carvalho, University of Lisbon- Co-chair
Cristina Monteiro, University of Coimbra
Elisabete Freitas, University of Coimbra
Hugo Natal da Luz, University of Coimbra
João Veloso, University of Aveiro
José Lopes, University of Coimbra
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Luis Fernandes, University of Coimbra
Manuela Ramos Silva, University of Coimbra

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Conference Secretariat

Address: ADDF, Physics Department, University of Coimbra

Rua Larga, 3004-516 Coimbra, Portugal

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Scientific Program

EXRS 2010 is the 14th in a series of biennial conferences which bring together scientists from the various research fields of X-ray spectrometry, using photon beams, electrons or other energetic particles. The conference programme will consist of 10 invited lectures (30 min) from distinguished scientists, 129 oral presentations (20 min) and 170 poster contributions.

Scientific Topics

1. Interactions of X-rays with matter and fundamental parameters;
2. X-ray sources, optics and detectors;
3. Quantification methodology;
4. TXRF, GIXRF and related techniques;
5. Microbeam techniques;
6. Mobile and portable XRF;
7. WDXRS;
8. Synchrotron XRS;
9. PIXE and electron induced XRS;
10. Recent Scientific Developments by XRS Instrumentation Manufacturers;
11. X-ray imaging and tomography;
12. High resolution X-ray absorption and emission spectroscopy;
13. XRS Applications:
 - a. Advanced materials and nanoscience;
 - b. Art and Cultural Heritage;
 - c. Earth and environment sciences;
 - d. Industrial quality and process control;
 - e. Life sciences and forensics.

Conference Sponsors

We thank the following institutions and companies for supporting the conference:

EXSA – European X-ray Spectrometry Association (<http://www.exsa.hu>)

GIAN – Grupo de Instrumentação Atómica e Nuclear (<http://gian.fis.uc.pt/pt/index.html>)

FCTUC – Faculdade de Ciências e Tecnologia (<http://www.uc.pt/fctuc>)

Universidade de Coimbra (<http://www.uc.pt>)

ADDF – Associação para o Desenvolvimento do Departamento de Física da FCTUC

Universidade de Lisboa (<http://www.ul.pt>)

Figueira Grande Turismo (<http://www.figueiraturismo.com>)

Câmara Municipal da Figueira da Foz (<http://www.figueiradigital.com/cmff>)

CAE, Figueira da Foz (<http://www.cae.pt>)

Invited Speakers

Román Padilla-Alvarez

International Atomic Energy Agency, Vienna, Austria

Topic 3, Thursday 8:30

Peter Brouwer

PANalytical BV, The Netherlands

Topic 4, Wednesday 8:30

Sultan Dabagov

INFN Laboratori Nazionali di Frascati, Frascati (Roma), Italy

Topic 2, Friday 8:30

Matthias Müller

Physikalisch-Technische Bundesanstalt, Berlin, Germany

Topic 8, Tuesday 13:30

Stanislaw Piorek

Thermo Fisher Scientific, USA

Topic 6, Monday 9:30

Ignacio Queralt

Institute of Earth Sciences “Jaume Almera”, Barcelona, Spain

Topic 13c, Thursday 8:30

Jan-Erik Rubensson

Department of Physics and Astronomy, Uppsala University, Sweden

Topic 12, Monday 9:30

Francesc Salvat

Facultat de Física, Universitat de Barcelona, Spain

Topic 1, Monday 14:30

Shangjun Zhuo

Shanghai Institute of Ceramics, Chinese Acad. Sciences, Shanghai, China

Topic 13d, Thursday 14:30

Matjaz Zitnik

Jožef Stefan Institute, Ljubljana, Slovenia

Topic 11, Monday 14:30

Proceedings of the EXRS 2010

Abstracts of all accepted contributions will be published in the Book of Abstracts that will be distributed to all participants during registration. Only abstracts of registered people will be included in the Book of Abstracts and in the Conference Proceedings.

The Conference Proceedings will be published in a CD-ROM and sent to participants after the conference. The proceedings will contain all presentations in pdf format as well as the submitted manuscripts, except for those accepted for publication in X-Ray Spectrometry.

Oral Presentations

Each oral presentation is entitled to 15 minutes + 5 min for questions. All technical material will be presented with a digital projector and a PC running Microsoft Powerpoint. We kindly ask you to load your file into the presentation machines at least one session prior to the one in which you are to present. Speakers should be present at least 15 minutes before the beginning of the Session in which they will give their presentation, in order to introduce themselves to the Session Chair.

Poster Presentations

The size of the poster should not exceed A0 (841 mm x 1189 mm). Authors will have the opportunity to discuss their posters during the respective poster session. Posters should be displayed in the morning and should be removed after the end of the session.

Manuscripts

Authors of accepted contributions are invited to submit one single manuscript per attendee for publication in a special issue of X-Ray Spectrometry (Wiley Interscience). Manuscripts should be prepared in the strict format of the Journal and will be reviewed in its normal review procedure. Manuscripts can only be submitted online, mentioning that the manuscript is intended for the special issue of EXRS2010. The on-line submission must be done before June 30. Instructions for authors can be found in:

<http://www.interscience.wiley.com/jpages/0049-8246/authors.html>

Industrial Exhibition

Traditionally, EXRS conferences include an Industrial Exhibition featuring companies producing X-ray related instruments and consumables.

EXRS2010 will be held in "CAE - Centro de Artes e Espectáculos", Figueira da Foz, a modern Conference Hall with pleasant ample space, including an inner garden with glazed roof.

The Industrial Exhibition stands will be located in the common foyer of the entrance to both auditoria and poster area. It will take place during the whole conference period.

Exhibitors (in alphabetical order):

- AMPTEK, Inc. <http://www.amptek.com/>
- BRUKER AXS <http://www.bruker-axs-ma.com/>
- Cambridge Scientific <http://www.cambridgescientific.net/>
- CANBERRA <http://www.canberra.com/>
- CLAISSE <http://www.claisse.com/>
- e2v Scientific Instruments <http://www.e2vsi.com/>
- AMETEK/EDAX/ SPECTRO <http://www.ametek.de/>
<http://www.edax.com/>
<http://spectro.com/>

- Elvatech, Ltd. <http://www.elvatech.com/>
- Gravimeta, Lda. <http://www.gravimeta.pt/>
- Fischer-Instruments, S.A. <http://www.helmut-fischer.com/>
- KETEK GmbH <http://www.ketek.net/>
- MOXTEK, Inc. <http://www.moxtek.com/>
- PANalytical B.V. <http://www.panalytical.com/>
- PNDetector GmbH <http://www.pndetector.de/>
- PNSensor GmbH <http://www.pnsensor.de/>
- Rigaku <http://www.rigaku.com/>
- ROENALYTIC GmbH/ Schaefer GmbH <http://www.roentgenanalytik.de/>
<http://www.schaefer-tec.com/>

- SII NanoTechnology USA Inc. <http://www.siintusa.com/>
- Thermo Fisher Scientific, Inc. <http://www.thermo.fr/>
- TolvEl Co. <http://www.toivel.com/>
- XIA LLC <http://www.xia.com/>
- X-Ray Optical Systems, Inc. (XOS®) <http://www.xos.com/>

Social Program

Sunday, June 20	
18:30-19:10	<i>Choir Concert</i>
19:15-20:00	<i>Welcome Reception</i>
Monday, June 21	
12:50-14:30	<i>Conference Lunch: "Sardine Gastronomic Festival of Figueira"</i>
Tuesday, June 22	
18:00	<i>Wine Degustation</i>
Wednesday, June 23	
14:00-19:00	<i>Excursion</i>
Thursday, June 24	
20:15	<i>Banquet</i>
Friday, June 25	
16:00	<i>Closing Ceremony & Coffee</i>

Accompanying persons: 2 (or 3) guided tours are foreseen for accompanies:

- Salt ponds and Salt Museum in the estuary of Mondego river;
- Bus-trip around the city of Figueira da Foz and the fisherman's village Buarcos, with stops at the interesting spots;
- Visit to Sotto Mayor Palace.

Sunday

17:00-18:30	Registration
18:30-19:15	<i>Choir Concert</i>
19:15-20:00	<i>Welcome Reception</i>

Monday

8:00-9:00	Registration	
9:00-9:30	Welcome and Opening	
	Session 1: Mobile and portable XRF	Session 2: High resolution X-Ray absorption and X-Ray spectroscopy
9:30-10:00	PIOREK, Stanislaw	RUBENSSON, Jan-Erik
10:00-10:20	HOCQUET, François-Philippe	STJEPKO, Fazinic
10:20-10:40	KAWAI, Jun	MARQUES, J. P.
10:40-11:00	NAKAYE, Yasukazu	POLLAKOWSKI, Beatrix
11:00-11:30	Coffee Break	
11:30-11:50	MIGLIORI, Alessandro	FRAENKEL, Benjamin
11:50-12:10	IWATA, Akihiko	SILVERSMIT, Geert
12:10-12:30	KUNIMURA, Shinsuke	ANKLAMM, Lars
12:30-12:50	BUZANICH, Günter	LE GUEN, Karine
12:50-14:30	<i>Conference Lunch: "Sardine Gastronomic Festival of Figueira"</i>	
	Session 3: Interactions of X-Rays with matter and fundamental parameters	Session 4: X-Ray imaging and tomography
14:30-15:00	SALVAT, Francesc	ZITNIK, Matzaj
15:00-15:20	AMARO, Pedro	HASCHKE, Michael
15:20-15:40	FERNANDEZ, Jorge	TSUJI, Kouichi
15:40-16:00	SANTOS, José Paulo	BENDAHAN, Joseph
16:00-16:30	Coffee Break	
16:30-16:50	SCOT, Viviana	BRUYNDONCKX, Peter
16:50-17:10	ERDOĞAN, Hasan	JANSSENS, Koen
17:10-18:30	Poster Session	

Tuesday

	Session 5: Interactions of X-Rays with matter and fundamental parameters	Session 6: X-Ray imaging and tomography
8:30-8:50	JONNARD, Philippe	DE SAMBER, Björn
8:50-9:10	SOKARAS, Dimosthenis	SZALÓKI, Imre
9:10-9:30	BECKHOFF, Burkhard	LIMA, Inayá
9:30-9:50	MÉNESGUEN, Yves	RIBEIRO PEREIRA, Gabriela
9:50-10:10	MACIEJEWSKA, Karina	FRIZZI, Tommaso
10:10-10:40	Coffee Break	
10:40-11:00	SCHOONJANS, Tom	SOLTAU, Heike
11:00-11:20	HODOROABA, Dan	WHITE, Victor
11:20-11:40	PAPP, Tibor	FIGUEROA, Rodolfo
11:40-12:00	REUTER, Dirk	SCHARF, Oliver
12:00-13:30	Lunch	
	Session 7: Recent scientific developments by XRS instrumentation manufacturers	Session 8: Synchrotron XRS; PIXE and electron induced XRS; WDXRS
13:30-14:00	Ivaylo Peev (TOIVEL) Tibor Papp (CAMBRIDGE SCI.) Robert H Redus (AMPTEK)	MÜLLER, Matthias
14:00-14:20	Kohei Kansai (RIGAKU) Peter Grudberg (XIA LLC)	VINCZE, Laszlo
14:20-14:40	Sebastien Rivard (CLAISSE) Joan Pujol (FISHER INSTRUMENTS)	LANKOSZ, Marek
14:40-15:00	Reinhard Singer (ROENALYTIC) Ralf Terborg (BRUKER-NANO)	KAVCIC, Matjaz
15:00-15:20	Gordon Myers (SII NANOTEC USA) A. Niculae (PNDSSENSOR)	STRÜDER, Lothar
15:20-15:40	A. Niculae (PNDETECTOR) P. Lamberge (THERMO FISHER)	KOUMEIR, Charbel

15:40-16:10	Coffee Break	
16:10-16:30	Sanjay Kamtekar (XOS) Kris Kozacek (MOXTEK)	LLOVET, Xavier
16:30-16:50	Bruno Vrebos (PANALYTICAL) Jürgen Knobloch (KETEK) Andreas Wittkopp (AMETEK)	WILCOX, Jaroslava
16:50-18:30	Poster Session	
18:00	<i>Wine Degustation</i>	
18:15-19:15	EXSA General Assembly	

Wednesday

	Session 9: Life Sciences and forensics	Session 10: TXRF, GIXRF and related techniques
8:30-9:00	8:40 - CHETTLE, David	BROUWER, Peter
9:00-9:20	GRAGG III, Richard D.	WOBRAUSCHEK, Peter
9:20-9:40	FLEMING, David	PEPPONI, Giancarlo
9:40-10:00	EICHERT, Diane	KALLITHRAKAS-KONTOS, N.
10:00-10:20	NAKAI, Izumi	KAYSER, Yves
10:20-10:50	Coffee Break	
10:50-11:10	MATJACIC, Lidija	OSAN, Janos
11:10-11:30	ANTUNES, Andrea	NUTSCH, Andreas
11:30-11:50	REGO, Florbela	REINHARDT, Falk
11:50-12:10	ZVEREVA, Valentina	PAGELS, Marcel
12:10-12:30	MILIC, Ana	HAMPAL, Dariush
12:30-14:00	Lunch	
14:00-19:00	<i>Excursion</i>	

Thursday

	Session 11: Earth and environment sciences	Session 12: Quantification methodology
8:30-9:00	QUERALT, Ignacio	PADILLA, Roman
9:00-9:20	BOMAN, Johan	WOLFF, Timo
9:20-9:40	VAN MEEL, Katleen	CZYZYCKI, Mateusz
9:40-10:00	FURGER, Markus	GARDNER, Robin
10:00-10:20	HOKURA, Akiko	GAZULLA, M ^a Fernanda
10:20-10:50	Coffee Break	
10:50-11:10	HOMMA, Hisashi	BLOKHINA, Elena
11:10-11:30	OBHODAS, Jasmina	MANTLER, Michael
11:30-11:50	MASSABO, Dario	LÜHL, Lars
11:50-12:10	RICHARD, Agnes	NENSEL, Bernhard
12:10-12:30	RO, Chul-Un	WELLENREUTHER, Gerd
12:30-14:00	Lunch	
14:00-14:20	LUO, Liqiang	14:10 - KESSLER, Jens
14:20-14:40	MARGUI, Eva	
	Session 13: Advanced materials and nanoscience	Session 14: Industrial quality and process control
14:40-15:00	H - ARCON, Iztok	14:30 - ZHUO, Shangjun
15:00-15:20	STREECK, Cornelia	DILL, Simone
15:20-15:40	KRAEMER, Markus	GAO, Ning
15:40-16:00	SILVA, Pedro	COELHO, Luis
16:00-16:30	Coffee Break	
16:30-16:50	Fundamental Parameter Initiative – Survey and discussion	ANYSZKIEWICZ, Jacek
16:50-17:10	(M.C. Lépy, B. Beckhoff, M. Mantler)	RIVARD, Sébastien
17:10-18:30	Poster Session	
20:15	Banquet	

Friday

	Session 15: X-Ray sources, optics and detectors	Session 16: Art and cultural heritage
8:30-9:00	DABAGOV, Sultan	8:40 - ALFELD, Matthias
9:00-9:20	COVITA, Daniel	LEMBERGE, Pascal
9:20-9:40	EGGERT, Tobias	KRIZNAR, Anabelle
9:40-10:00	SILVA, Ana Luísa	GÓMEZ-TENA, M.P.
10:00-10:20	GRIGORIEVA, Inna	FIGUEIREDO, Maria Ondina
10:20-10:50	Coffee Break	
10:50-11:10	TERBORG, Ralf	FRAGOSO, Emanuela
11:10-11:30	TOMAS, Alfredo	TRUNOVA, Valentina
11:30-11:50	FERNANDES, Luis	BUCCOLIERI, Giovanni
11:50-12:10	MANTOUVALOU, Ioanna	APPOLONI, C. Roberto.
12:10-12:30	RACKWITZ, Vanessa	RODRIGUES, Marta
12:30-14:00	Lunch	
14:00-14:20	RODRIGUES, Matias	FURTADO, Maria
14:20-14:40	SCOULLAR, Paul	GIL, Francisco
14:40-15:00	CARRAMATE, Lara	CONSTANTINESCU, Bogdan
15:00-15:20	SIMSEK, Atakan	Le GAC, Agnès
15:20-15:40	TAIBI, Angelo	CAVALLO, Giovanni
15:40-16:00	UKIBE, Masahiro	CALZA, Cristiane
16:00	Conference Closing	
	Coffee Break	

Detailed Program

SUNDAY - JUNE 20, 2010

17:00 – 18:30 **Registration**
18:30 – 19:15 **Choir Concert**
19:15 – 20:00 **Reception**

MONDAY - JUNE 21, 2010

08:00 - 09:00 **Registration**
09:00 - 09:30 **Welcome and Opening**

* Room GA= Grand Auditorium

* Room SA= Small Auditorium

Session 1: Mobile and portable XRF

Session 2: High resolution X-ray absorption and X-ray spectroscopy

Room GA - Chair: René Van Grieken

Room SA - Chair: Peter Wobrauschek

09:30 – 10:00

INVITED LECTURE:

Past, present and future of field-portable and handheld XRF analyzers and their role in various fields of industry and science

Stanislaw Piorek

(Thermo Fisher Scientific)

09:30 – 10:00

INVITED LECTURE:

Resonant Inelastic Soft X-ray Scattering with Vibrational Resolution

J.-E. Rubensson, Y. Sun, M. Odelius, M. Berglund, A. Pietzsch, J. Schlappa, B. Kennedy, T. Schmitt, V. Strocov, J. Andersson, H. O. Karlsson, F. Gel'mukhanov, A. Föhlisch, and F. Hennies

(Uppsala University)

10:00 – 10:20

2D Elemental imaging tool with a mobile EDXRF system

F.-Ph. Hocquet, A. Marchal, M. Clar, S. Rakkaa, C. Oger F. Mathis, D. Strivay

10:00 – 10:20

Chemical effects on the $K\beta''$ and $K\beta_{2,5}$ x-ray lines of 3d transition elements and their oxide compounds by PIXE

S. Fazinic, L. Mandic, I. Bozicevic

10:20 – 10:40

Palmtop electron probe X-ray spectrometer

Jun Kawai, Eisuke Hiro

10:20 – 10:40

Analysis of X-ray spectra emitted from laser-produced plasmas of lead

A. Martins, F. Parente, P. Indelicato, J.P. Marques

10:40 – 11:00

Recording X-ray spectra using a music digitizer: 180 eV FWHM at 5.9 keV

Y. Nakaya, J. Kawai

10:40 – 11:00

Speciation depth profiling of buried nanolayers

B. Pollakowski, B. Beckhoff

11:00 – 11:30 Coffee Break

Room GA - Chair: Jun Kawai

11:30 – 11:50

Performance characterisation of a custom-realised portable XRF spectrometer

A. Migliori, P. Bonanni, L. Carraresi, N. Grassi and P.A. Mandò

11:00 – 11:30 Coffee Break

Room SA - Chair: Marie-Christine Lépy

11:30 – 11:50

Absolute standards for X-ray Wavelengths

Benjamin S. Fraenkel, Zwi H. Kalman

11:50 – 12:10

X-ray fluorescence analysis of rocks using a benchtop WD-XRF

A. Iwata, K. Kansai, Y. Kataoka, J. Kawai

11:50 – 12:10

3D confocal Fe-K XANES on inclusions in "ultra-deep" diamonds

G. Silversmit, B. Vekemans, T. Schoonjans, S. Schmitz, F.E. Brenker, L. Vincze

12:10 – 12:30

Ultra Trace Elemental Determination Using TXRF Spectrometry with Low Power X-Ray Tube

Shinsuke Kunimura and Jun Kawai

12:10 – 12:30

High resolution X-ray emission spectroscopy for chemical speciation with a new developed HAPG von-Hamos spectrometer

L. Anklamm, M. Pagels, H. Legall, H. Stiel, B. Kanngießner, W. Malzer, M. Müller, B. Beckhoff, I. Gregorieva, A. Antonov

12:30 – 12:50

PART (Portable ART Analyser) - An X Ray Spectrometer for special applications in Cultural Heritage

G. Buzanich, P. Wobrauschek, C. Strelti, A. Markowicz, D. Wegrzynek, E. Chinea-Cano, M. Griesser, K. Uhlir, A. Guilherme

12:30 – 12:50

Characterization of EUV periodic multilayers

K. Le Guen, M.-H Hu, J.-M. André, P. Jonnard, Z. Wang, J Zhu, A. Galtayries, C. Meny, E. Meltchakov, C. Hecquet, F. Delmotte

12:50 – 14:30 Lunch**12:50 – 14:30 Lunch**

Session 3: Interactions of X-rays with matter and fundamental parameters

Room GA - Chair: Michael Mantler

14:30 – 15:00

INVITED LECTURE:

Cross sections for inner-shell ionization and x-ray production by impact of electrons and positrons

F. Salvat, D. Bote, X. Llovet, A. Jablonski, C.J. Powell

(Barcelona University)

15:00 – 15:20

Accurate Measurements of Highly Charged Argon Ions X-Ray Line Energies with a Double-Crystal Spectrometer

P. Amaro, S. Schlessler, A. Gumberidze, C. Szabo, E.O. Le Bigot, B. Manil, M. Trassinelli, J.P. Santos, P. Indelicato

15:20 – 15:40

Detailed transport calculations of line width effects on the XRF intensity

J.E. Fernandez, V. Scot

15:40 – 16:00

X-ray spectroscopy analysis of electron-cyclotron-resonance ion-source plasmas

J. P. Santos, M. C. Martins, A. M. Costa, J. P. Marques, P. Indelicato, F. Parente

16:00 – 16:30 Coffee Break

Room GA - Chair: Michael Mantler

16:30 – 16:50

Angular distribution of scattering intensities with the SAP code

J.E. Fernandez, V. Scot, E. Di Giulio, L. Verardi

Session 4: X-ray imaging and tomography

Room SA - Chair: Stjepko Fazinić

14:30 – 15:00

INVITED LECTURE:

3D-reconstruction of an object by means of a confocal micro-PIXE

M. Žitnik, N. Grlj, P. Pelicon, P. Vavpetič, D. Sokaras, A.G. Karydas and B. Kanngießer

(Jožef Stefan Institute)

15:00 – 15:20

Fast measurement of elemental distributions with μ -XRF

M. Haschke, U. Waldschläger

15:20 – 15:40

Nondestructive depth profiling of layered materials and 3D-XRF analysis of biological sample

K. Nakano, K. Tsuji

15:40 – 16:00

Transmission Spectroscopy

T. Gozani, J. Stevenson, C. Brown, W. Langeveld, J. Bendahan

16:00 – 16:30 Coffee Break

Room SA - Chair: Stjepko Fazinić

16:30 – 16:50

Progress in combined microXRF-microCT imaging

Peter Bruyndonckx, Alexander Sasov, Xuan Liu

16:50 – 17:10

Measurement of K shell fluorescence yields of Cr, Mn, Fe, Co, Ni, Cu, Zn, Mo, Ag, Cd, Ba, La, Ce and their compounds

Hasan Erdoğan

16:50 – 17:10

Photo-induced redox reactions of Cr, Cd and Hg: a significant threat to modern and ancient works of art?

K. Janssens, G. Van der Snickt, L. Monico, J. Dik and M. Cotte

17:10 – 18:30 Poster Session

17:10 – 18:30 Poster Session

POSTER SESSION 1

Interactions of X-rays with matter and fundamental parameters

1 - Resonant Raman scattering of polarized and unpolarized X-ray radiation from Mg, Al and Si

D. Sokaras, M. Müller, M. Kolbe, B. Beckhoff, Ch. Zarkadas, A.G. Karydas

2 - Modelling of X-Ray Scattering for improved X-Ray Fluorescence Analysis - Monochromatic Excitation

D. Reuter, M. Radtke, L. Vincze, U. Reinholz, H. Riesemeier, V.-D. Hodoroba

3 - Resonant Raman Scattering, a New Tool for Oxidation State Determinations

J.J. Leani, H. Sánchez, M. Valentinuzzi, C. Pérez

4 - Xenon scintillation induced by X-rays

L.M.P. Fernandes, E.D.C. Freitas, C.M.B. Monteiro, J.M.F. dos Santos, M. Ball, J.J. Gómez-Cadenas, N. Yahlali

5 - Needs for Atomic Data in Ionizing Radiation Techniques

Marie-Martine Bé, Marie-Christine Lépy

6 - X-ray Diffractometry, EXAFS and Small-Angle Scattering of X-Ray Beams for Nano-Particles Diagnostics in Pharmacology

M.E. Boiko, K.Yu. Pogrebitsky, A.M. Boiko, M.D. Sharkov, A.P. Morovov, M.G. Vasin, L.I. Trakhtenberg

7 - Application of modified analytical function for approximation and computer simulation of diffraction profile

S.I. Marrero, S.N. Turibus, J.T. de Assis, V.I. Monin

8 - X-ray microanalysis of martensite structures in copper based shape memory phase alloys

O. Adiguzel

9 - Calibration of the XENON100 detector

E. Aprile, K. Arisaka, F. Arneodo, A. Askin, L. Baudis, E. Brown, J.M.R. Cardoso, B. Choi, D. Cline, S. Fattori, A.D. Ferella, K.L. Giboni, A. Kish, R.F. Lang, K.E. Lim, J.A.M. Lopes, Y. Mei, A.J. Melgarejo Fernandez, K. Ni, U. Oberlack, S.E.A. Orrigo, E. Pantic, G. Plante, A.C.C. Ribeiro, R. Santorelli, J.M.F. dos Santos, M. Schumann, P. Shagin, A. Teymourian, E. Tziaferi, H. Wang

TXRF, GIXRF and related techniques

10 - Analysis of Spin-coated Inorganic Contamination on Si wafer Surfaces by Different Methodologies

B. Beckhoff, A. Nutsch, R. Altmann, G. Borionetti, C. Pello, M. L. Polignano, D. Codegoni, S. Grasso, E. Cazzini, M. Bersani, P. Lazzeri, S. Gennaro, M. Kolbe, M. Müller, P. Kregsamer, F. Posch

11 - Characterization of Hf based thin films on Si wafers by Grazing Incidence XRF

D.Ingerle, G.Pepponi, F.Meirer, C.Streli, P.Wobrauschek, J.A.Van den Berg and M.A.Reading

12 - Investigation of the element distribution in TXRF samples using SR μ XRF

C. Horntrich, S. Smolek, A. Maderitsch, P. Kregsamer, R. Simon, A. Nutsch, M. Knoerr and C. Streli

13 - Analysis of mineral-nutrients in liquid healthcare products by means of TXRF spectroscopy

H. Stosnach, R. Baechler

14 - Total reflection X-ray fluorescence spectrometry for determination of Indium in reactor heavy water at ultra trace levels

N.L. Misra, S. Dhara, S.S. Kumar, H. Bose, S.K. Aggarwal, V. Venugopal

15 - First Eu and Tb quantitation in luminescent γ ZrP-TerPy compounds by Total-reflection X-Ray Fluorescence direct solid procedure

R. Fernández-Ruiz, E. Brunet, O. Juanes, J.C. Rodríguez-Ubis, A. Salvador

Microbeam techniques

16 - Trace elements concentration and diabetes mellitus duration in crystalline lens of dogs: μ EDXRF applications

M.B.P. Braga, M.A. Scapin, A.M.V. Safatle, P.S.M. Barros, M.L. Carvalho, A. Antunes

17 - μ SXRF maps on crystalline lenses of diabetic and nondiabetic dogs: a comparative study

M.B.P. Braga, A.M.V. Safatle, P.S.M. Barros, M.L. Carvalho, A. Antunes

18 - μ -XRF and μ -XANES, tools for the analysis of metallic impurities in photovoltaic polycrystalline silicon

G. Buzanich, H. Riesemeier, M. Radtke, U. Reinholz, D. Kreßner-Kiel and T. Kaden

19 - Liquid-Liquid near interface analysis by micro-XRF using injection needle type collimators

Y. Nishida, K. Tsuji

20 - Distribution maps of trace elements in bovine placenta

S. Will, R. Rici, M. A. Miglino, M. L. Carvalho and A. Antunes

21 - Data processing and result presentation in μ -XRF

M. Haschke, W. Malzer, U. Waldschläger, R. Tagle, U. Rossek, H. Wagenknecht

22 - *Spatially-resolved detection of iodine in natural platinum-palladium nuggets: a comparison of PIXE and XRF*

M. Radtke, A. Cabral, B. Lehmann, F. Munnik, U. Reinholz, H. Riesemeier

23 - *Scanning micro-XRF of rough surfaces and relief imaging of metallic objects*

T. Trojek

X-ray imaging and tomography

24 - *In-depth elemental Imaging by EDXRF with an advance X ray spectrometer based on Silicon Drift Detector*

G.C. Brambilla, M. Cortesi, A. Breskin, R. Chechik, Sh.S. Shilstein, R. Alberti, A. Longoni, T. Frizzi

25 - *Nanochemical Imaging of the Subtissue Metal Distribution within the Biological Model Organism Daphnia magna*

B. De Samber, S. Vanblaere, K. De Schampelaere, C. Janssen, I. Lindemann¹, T. Schoonjans, G. Silversmit, B. Vekemans, S. Bohic, G. Martinez-Criado, R. Tucoulou, P. Cloetens, L. Vincze

26 - *Dual Detector X-ray Fluorescence Cryotomography and Mapping on the Biological Model Organism Daphnia magna*

B. De Samber, I. Lindemann, T. Schoonjans, G. Silversmit, B. Vekemans, R. Evens, S. Vanblaere, K. De Schampelaere, C. Janssen, G. Wellenreuther, K. Rickers, G. Falkenberg, Laszlo Vincze

27 - *Elemental Imaging of Painted Layers with a Laboratory 3D Micro-X-Ray Fluorescence Spectrometer*

C.Seim, B.Hesse, B. Kanngießler

28 - *Combination of LiF detectors with polycapillary optics for X-ray high resolution imaging*

F. Bonfigli, D. Hampai, R.M. Montereali, M.A. Vincenti, S.B. Dabagov

29 - *Determination of Concrete Features by Images Obtained From X-Ray Microtomography*

J.R.C. Pessôa, R.L.B. Breder, P.E. Cruvinel, Paulo R.O. Lasso, G. Carvalho, R. Einsfeld, I. Lima, J.T. de Assis

30 - *Concrete Porosity Determination Utilizing the Compact SkyScan 1174 micro-CT*

J.T. de Assis, J.R.C. Pessôa, R.L.B. Breder, G.J.O. Rodrigues, G. Carvalho, R. Einsfeld, I. Lima

31 - *Bone-hydroxyapatite spheres interface evaluation by synchrotron radiation x-ray microfluorescence*

F.M. Gasperini, A.M. Rossi, R.F.B. Resende, M.D. Calasans-Maia, J.M. Granjeiro, R. Leitão, R.T. Lopes, I.C.B. Lima

32 - *Current Status of the Transmission X-ray Microscopy in BSRF*

Kai Zhang, Wanxia Huang, Youli Hong, Qingxi Yuan, Peiping Zhu, Ziyu Wu, Jeff Gelb, Andrei Tkachuk, Wenbing Yun

33 - *Experimental study of an optical XRF imaging system using a 2D gaseous detector*

R.G. Figueroa, C. Parra, A.L.M. Silva, J.F.C.A. Veloso

34 - *Phase Contrast X-ray Imaging and MicroCT of Weakly Absorbing Materials using Laboratory X-ray Sources,*

L. Brownlow, [V. Pires](#)

35 - *Grating-based phase contrast imaging using a polychromatic X-ray laboratory source*

[Zhili Wang](#), Peiping Zhu, Kai Zhang, Xiaosong Liu, Youli Hong, Qingxi Yuan, Wanxia Huang, Zhongzhu Zhu, Ziyu Wu

High resolution X-ray absorption and emission spectroscopy

36 - *Lifetime-broadening removed L3 x-ray absorption spectrum of Xe measured by resonant inelastic x-ray scattering*

[M. Kavčič](#), M. Žitnik, K. Bučar, J. Szlachetko

37 - *Determination of state and local structure of active component of nanostructured precious metal supported catalysts by XAFS*

[V.V. Kriventsov](#), I.E. Beck, I.L. Simakova, A. Simakov, E. Smolentseva, B.N. Novgorodov, E.P. Yakimchuk, D.I. Kochubey, D.P. Ivanov, A.V. Chistyakov, V.V. Gmakin, M.V. Tsodikov, J.A. Navio, S.G. Nikitenko, V.I. Bukhtiyarov

38 - *XAFS study of Pt nanoparticles located on oxide supports*

[V.V. Kriventsov](#), I.E. Beck, B.N. Novgorodov, D.P. Ivanov, E.P. Yakimchuk, V.I. Bukhtiyarov

39 - *Non-destructive chemical speciation of buried interfaces by GIXRF-NEXAFS*

[R. Unterumberger](#), B. Pollakowski, M. Müller, B. Beckhoff, W. Ensinger, P. Hoffmann, T. Adler, Andreas Klein

Life sciences and forensics

40 - *Trace elements concentrations on cloned and normal bovine placenta studied by EDXRF*

[S. Will](#), R. Rici, M.A. Miglino, M.L. Carvalho, A. Antunes

41 - *Trace elements concentration on liver of lambs contaminated by copper: a preliminary study on cumulative effects*

R. Weigel, M. C. A. Sucupira, C. S. Mori, S. Will, M. L. Carvalho and [A. Antunes](#)

42 - *Trace elements concentrations on sheep placenta supplemented with A, D, E injectable vitamins: a preliminary study*

M.C.A. Sucupira, R. Weigel, P.M. Nascimento, M.L. Carvalho, [A. Antunes](#)

43 - *Cataract Canine: a discussion about trace elements concentration on final maturation stages*

P.C.O.C. Jezler, A.M.V.Safatle, P.S.M. Barros, M. L. Carvalho, [A. Antunes](#)

44 - *Study of Gun-Shot Residue by XRF Spectrometry*

[D.Bolortuya](#), P.Zuzaan, E.Tuvshin-Erdene

45 - Potential Effects of Some Functional Food in Ovine Breeding: Analysis of Nutrition-Relevant Trace Elements in Sheep Serum by TXRF

C.L. Mota, R.C. Barroso, S.C. Cardoso, L. Pascolo, B. Stefanon, S. Sgorlon, C. Scaini, D. Braz, S. Moreira

46 - Evaluation of the levels of metals in mice with tumor of Walker-256 through the technique of portable X-ray fluorescence (PXRF)

M. Estevam, C.R. Appoloni

47 - Laboratory Based Micro-XRF Imaging of Plant Leaves related to Remediation Studies in Post-Mining Areas

S. Smolek, E. Marguá, P. Kregsamer, I. Queralt, C. Strelj

48 - Speciation of Pb at the Tidemark of Articular Cartilage and in Trabecular Bone

F. Meirer, B. Pemmer, N. Zoeger, C. Strelj, J. Goettlicher, R. Steininger, S. Mangold, A. Tampieri, S. Sprio, G. Pepponi, J. G. Hofstaetter, P. Roschger, K. Klaushofer

49 - Levels and Spatial Distribution of Trace Elements in Bone Following Strontium Treatment in Calcium Deficient Rats

F. Meirer, J.G. Hofstaetter, S. Smolek, B. Pemmer, P. Wobraschek, R. Simon, R. K. Fuchs, M. R. Allen, K. W. Condon, S. Reinwald, D. McClenathan, B. Keck, R. J. Phipps, D. B. Burr, P. Roschger, E. Paschalis, K. Klaushofer, C. Strelj

50 - Study of age dependency in lead accumulation and excretion in a group of Wistar rats by EDXRF

D. Guimarães, M.L. Carvalho, V. Geraldés, I. Rocha, J.P. Santos

51 - X-ray fluorescence analysis in unique measuring set-up

I. Szalóki, T. Pintér, R.T. Mainardi, E. Bonzi

52 - Inorganic elements determination in laboratory animals whole blood samples by EDXRF technique

M.M. Redígolo, R. Aguiar, C.B. Zamboni, V.L.R. Salvador, I.M. Sato

53 - Combination of Total Reflection X-Ray Spectrometry and Chemometry for Determination of Botanical and Geographical Origin of Slovenian Honey

Marijan Nečemer, Peter Kump

54 - A second generation X-Ray Fluorescence based diagnostic tool for the measurement of strontium stored in human bone

M. Sibaj, A. Pejovic-Milic, D. Chettle, E. Desouza

55 - Evaluation of elemental bioavailability in cooked seafood using EDXRF and AAS

P. Anacleto, A.L. Maulvault, A. Amaral, A. Marques, H.M. Lourenço, M.L. Nunes, M.L. Carvalho

56 - Localization of aluminium in tea (Camellia sinensis) leaves using low energy X-ray fluorescence spectro-microscopy

R. Tolrà, K. Vogel-Mikuš, R. Hajiboland, P. Kump, P. Pongrac, B. Kaulich, A. Gianoncelli, V. Babin, J. Barceló, M. Regvar, C. Poschenrieder

57 - Vibrio harveyi bacteria under X-ray irradiation

V. Nassisi, P. Alifano, G. Buccolieri, A. Talà, M. Tredici, M.V. Siciliano, L. Velardi

TUESDAY - JUNE 22, 2010

Session 5: Interactions of X-rays with matter and fundamental parameters

(cont'd)

Room GA - Chair: Jorge Fernandez

08:30 – 08:50

Cauchois & Sénémaud Tables of x-ray wavelengths and absorption edges

P. Jonnard, C. Bonnelle

08:50 – 09:10

Cascade enhancement on the Fe L-shell x-ray emission as incident x-ray photons are tuned across 1s ionization threshold

D. Sokaras, A.G. Kochur, M. Müller, M. Kolbe, B. Beckhoff, M. Mantler, Ch. Zarkadas, M. Andrianis, A. Lagoyannis, A.G. Karydas

09:10 – 09:30

Determination of L-subshell Coster-Kronig probabilities and L-subshell Fluorescence Yields of high Z elements with a reliable uncertainty budget

M. Kolbe, M. Müller, B. Beckhoff

09:30 – 09:50

Experimental measurements of mass attenuation coefficients, fluorescence yields using tunable monochromatic sources

Y. Ménesguen, M.-C. Lépy

Session 6: X-ray imaging and tomography (cont'd)

Room SA - Chair: Birgit Kanngießer

08:30 – 08:50

X-ray Microspectroscopic Imaging and Laser Ablation Inductively Coupled Plasma Mass Spectrometry for Metal Analysis in Biological Model Organisms

B. De Samber, T. Schoonjans, B. Vekemans, G. Silversmit, D. Gholap, A. Izmer, R. Evens, K. De Schampelaere, L. Van Hoorebeke, C. Janssen, F. Vanhaecke, L. Vincze

08:50 – 09:10

XRF microtomography and confocal imaging for the 2D/3D determination of toxic elements in biological samples

I. Szalóki, B. De Samber, T. Schoonjans, B. Vekemans, V. Czech, Gy. Záray, L. Vincze

09:10 – 09:30

Bone microarchitecture investigation in strontium ranelate protocol

I. Lima, P. Taam, V. da Costa, M.L.F. Fleiuss, D. Rosenthal, J.T. de Assis, F. Vidal, R.T. Lopes

09:30 – 09:50

3D Elemental Distribution Images by XRF μ CT

G.R. Pereira, H.S. Rocha, C. Calza, I. Lima, M.J. Anjos, C. Pérez, R.T. Lopes

09:50 – 10:10

Changes in newborn rats' bone components after maternal treatment with zidovudine – X-ray fluorescence analysis

Z. Drzazga, K. Maciejewska, K. Michalik, H. Trzeciak

09:50 – 10:10

Synchrotron X-ray fluorescence micro-spectroscopy allows tracing asbestos bodies in histological lung samples and investigating formation mechanisms

L. Pascolo, A. Gianoncelli, B. Kaulich, C. Rizzardi, M. Schneider, C. Bottin, M. Polentarutti, M. Kiskinova, A. Longoni, R. Alberti, T. Frizzi, M. Melato

10:10 -10:40 Coffee Break

Room GA - Chair: Christina Strelt

10:40 – 11:00

The xraylib library for X-ray matter interaction cross sections: New developments

T. Schoonjans, M. Sanchez del Rio, A. Brunetti, B. Golosio, A. Simionovici, C. Ferrero, L. Vincze

10:10 -10:40 Coffee Break

Room SA - Chair: Peter Kump

10:40 – 11:00

High Speed and Very Large pnCCDs for X-ray Imaging

H.Soltau, R.Eckhardt, R.Hartmann, P.Holl, S.Ihle, M.Lang, C.Thamm, A.Liebel, A.Niculae, G.Schaller, F.Schopper, N.Langhoff, L.Strüder

11:00 – 11:20

Challenges for an Accurate Reference-Free Quantitative Analysis with μ -XRF at a SEM/EDS

V.-D. Hodoroaba, V. Rackwitz, D. Reuter

11:00 – 11:20

Fourier Transform Spectral Imager in Soft X-ray Region

J.Z. Wilcox, V. White, K. Shcheglov, R. Kowalczyk

11:20 – 11:40

A critical analysis of the experimental Coster-Kronig and fluorescence yields data

T. Papp

11:20 – 11:40

Obtaining great area XRF images of diverse shape samples

R.G. Figueroa, E. Lozano, D. Alcamán, F. Belmar, A. von Bohlen

11:40 – 12:00

Modelling of X-Ray Scattering for improved X-Ray Fluorescence Analysis – X-Ray Tube Excitation

D. Reuter, M. Radtke, L. Vincze, V.-D. Hodoroaba

11:40 – 12:00

First images of a colour X-ray camera, a detector with high resolution in energy and space

O. Scharf, S. Bjeoumikova, H. Soltau

12:00 – 13:30 Lunch**12:00 – 13:30 Lunch**

Session 7: Recent Scientific Developments by XRS Instrumentation Manufacturers

Room GA - Chair: Bruno Vrebos

13:30 – 13:40

Benefits of Using Digital Adaptive Filtering in Fast Pulse Processing

Georgi Georgiev (INRNE), Ivaylo Peev (INRNE), Kr. Gigov (INRNE)

(*Toivel Ltd.*)

13:40 – 13:50

The origin of x-ray spectra measured with energy dispersive detectors

T. Papp and J.A. Maxwell

(*Cambridge Scientific Corp.*)

13:50 – 14:00

Improved Silicon Drift Detectors for EDXRF

R.H. Redus, A. Huber, J. Pantazis, T. Pantazis

(*Amptek, Inc.*)

14:00 – 14:10

Rigaku provides an extensive range of product line in WD-XRF for your solutions

K. Kansai, A. Iwata, and Y. Kataoka

(*Rigaku Corporation*)

14:10 – 14:20

XIA's New DXP Mercury Bench-top Digital X-ray Spectrometers

Peter Grudberg, Jack Harris, Christopher Cox, James Heinmiller

(*XIA LLC*)

Session 8: Synchrotron XRS; PIXE and electron induced XRS; WDXRS

Room SA - Chair: Burkhard Beckhoff

13:30 – 14:00

INVITED LECTURE:

Synchrotron radiation based high-resolution x-ray emission spectroscopy: methodology and application to FPXRS

Matthias Müller

(*Physikalisch-Technische Bundesanstalt*)

14:00 – 14:20

Submicron X-ray fluorescence imaging on unique cometary matter returned by NASA's Stardust mission

L. Vincze, B. Vekemans, G. Silversmit, T. Schoonjans, S. Schmitz, M. Burghammer, C. Riekkel, S. Schöder, F. Brenker

14:20 – 14:30

*Corporation Scientifique Claisse
Innovation Leads to New Standards in
Sample Preparation by Borate Fusion:
TheOx, Powerful Multi-position Electric
Fluxer*

S. Rivard

(Corporation Scientifique Claisse)

14:30 – 14:40

*50 years of excellence and knowledge
for our customers*

J. Pujol

(FISCHER instruments S.A.)

14:40 – 14:50

*NanoMaster - the tool for advanced XRF
analysis*

R. Singer, J. Eschenauer, and M. Eckhardt

(ROENALYTIC GmbH)

14:50 – 15:00

*Recent improvements in Silicon Drift
Detector (SDD) technology*

R. Terborg

(Bruker Nano GmbH)

15:00 – 15:10

*Silicon Drift Detector Spectrometers for
High Count Rate XRF Applications*

G. Myers

(SII NanoTechnology USA Inc.)

15:10 – 15:20

*Company and Product Profile –
PNSensor GmbH*

H. Soltau, A. Niculae, G. Lutz, P. Lechner, A. Bechteler,
R. Eckhardt, K. Hermenau, S. Jeschke, M. Schulze

14:20 – 14:40

*Pilot studies of levels, speciation and
chemical environments of iron and zinc
in brain cancers*

M. Szczerbowska-Boruchowska, A. Wandzilak,
M. Czyzycki, P. Wrobel, D. Adamek, E.
Radwanska, K. Rickers, D. Zajac, M. Lankosz

14:40 – 15:00

*Application of wavelength dispersive x-
ray spectroscopy to improve detection
limits in x-ray analysis*

M. Kavčič, J. Szlachetko

15:00 – 15:20

*Nanometer Resolution on a
Femtosecond Timescale – First
Experiments with pnCCDs for High
Speed X-ray Imaging and Spectroscopy
at LCLS*

L. Strüder, H. Soltau, R. Hartmann, P. Holl, C.
Reich, N. Kimmel, G. Hauser

15:20 – 15:30

*Company and Product Profile –
PNDetector GmbH*

A. Niculae, H. Soltau, A. Simsek, A. Liebel, O.
Jaritschin, M. Schulze

B. Titze, M. Kufner, U. Weber
(PNDetector GmbH)

15:30 – 15:40

*ED-XRF analysis to determine the origin
and authenticity of gemstones*

P. Lemberge, D. Bonvin, F. Herzog and M.S.
Krzemnicki

(Thermo Fisher Scientific, Inc.)

15:40 – 16:10 Coffee Break

Room GA - Chair: Bruno Vrebos

16:10 – 16:20

*Advanced X-Ray Optics in X-Ray
Fluorescence Analysis – The New Tools
in Old Methods*

N. Gao, S. Kamtekar, M. Cusack, and D. Gibson

(X-ray Optical Systems, Inc.)

16:20 – 16:30

Moxtek - Innovating Solutions for X-rays

K. Kozaczek

(MOXTEK, Inc.)

16:30 – 16:40

*Highlights of PANalytical's XRF
instrumentation*

B. Vrebos

(PANalytical B.V.)

16:40 – 16:50

*KETEK - Broadened Portfolio of High
Energy Resolution Silicon Drift Detectors
and XRF-Acquisition Systems*

J. Knobloch

(KETEK GmbH)

15:20 – 15:40

*A new facility for high energy PIXE and
some applications*

C. Koumeir, F. Haddad, V. Metivier

15:40 – 16:10 Coffee Break

Room GA - Chair: Burkhard Beckhoff

16:10 – 16:30

*New measurements of the surface
ionization for electron
probe microanalysis*

X. Llovet and C. Merlet

16:30 – 16:50

*Atmospheric Electron X-Ray
Spectrometer (AEXS) for insitu
Elemental Analysis*

J.Z. Wilcox, E. Urgiles, R. Toda, J. Crisp

16:50 – 17:00

A Joined Effort - How portable/benchtop EDXRF and benchtop μ -EDXRF can be applied for Wear Content Determination and Particle Analysis in used lubrication Oil

Dirk Wissmann and Andreas Wittkopp

(Ametek GmbH)

16:50 – 18:30 Poster session

16:50 – 18:30 Poster session

18:15 – 19:15

EXSA General Assembly

18:15 – 19:15

EXSA General Assembly

POSTER SESSION 2

Mobile and portable XRF

1 - Advanced X-ray spectrometers based on high performance read-out electronics coupled with Silicon Drift Detectors

R. Alberti, L. Bombelli, C. Fiorini, T. Frizzi, A. Longoni, R. Nava

WDXRS

2 - Determination of impurities in drug products by wavelength dispersive X-ray fluorescence spectrometry

L. Gonçalves, I. Costa, J. Brito

Synchrotron XRS

3 - Characterization of the SOLEIL metrology beam line

M.C. Lépy, Y. Ménesguen, M. Idir, P. Mercere, P. da Silva, P. Stemmler, I. Moreau

4 - Air quality evaluation in Campinas Metropolitan Region: determination of heavy metals in particulate matter (PM10) and contribution of emission sources

S. Moreira, A.S. Melo Júnior

5 - Monitoring and Evaluation of Metals in Ducts and Stationary Sources of Ceramic Industries by SR-TXRF

S. Moreira, R.J. Fonseca

6 - The Hard X-Ray Micro/Nano-Probe beamline P06 at PETRA III

G. Falkenberg, G. Wellenreuther, N. Reimers

7 - *Wavelength-dispersive spectrometer for x-ray micro-fluorescence analysis at the X-ray Microscopy beamline ID21 (ESRF)*

J. Szlachetko, M. Cotte, J. Morse, M. Salomé, P. Jagodzinski, J.-Cl. Dousse, J. Hoszowska, Y. Kayser, J. Susini

PIXE and electron induced XRS

8 - *Integration of PIXE and XRF spectrometries for simultaneous applications*

V. Desnica, S. Fazinić and M. Bogovac

Recent Scientific Developments by XRS Instrumentation Manufacturers

9 - *Enhancing the light element performance of EDXRF by using a new Silicon Drift Detector with high transmission window*

Pol de Pape, Kai Behrens, Ekkehard Gerndt, Uwe Metka

10 - *Development of an Open Source distributed multichannel acquisition system*

R. Mendes, N. Pinhão, C. Cruz and L. C. Alves

11 - *The Berlin Laboratory for Innovative X-ray Technologies*

W. Malzer, I. Mantouvalou, B. Kanngießner

Art and Cultural Heritage

12 - *Analysis of paper documents by X-ray techniques: Application to Spanish books from XIX to XX centuries*

A. Pitarch, O. Gonzalez-Fernandez, M. Manso, S. Pessanha, A. Guilherme, I. Queralt and M.L. Carvalho

13 - *Brass lamps: Preliminary study on the constituent materials and production technology by X-ray and microscopical techniques*

M. Simas, T. Ferreira, C. Dias, N. Schiavon, E. Fragoso, M. J. Furtado, R. J. C. Silva, A. Le Gac, A. Alegria

14 - *Combining high resolved XRF techniques to diagnose the vitreous and decorative surfaces on pottery from Coimbra*

A. Guilherme, C. Seim, B. Hesse, J.M.F. dos Santos, J. Coroado, B. Kanngießner, M.L. Carvalho

15 - *EDXRF analysis of archaeological metal artifacts from the Bronze Age*

C.E. Bottaini, A.L.M. Silva, D.S. Covita, J.F.C.A. Veloso

16 - *Analysis of trace elements in cupronickel: XRS classification of euro coins*

A. Kocsonya, I. Kovács and Z. Szőkefalvi-Nagy

17 - *EDXRF analysis of metal artifacts from the grave goods of the Royal Tomb 14 of Sipán, Peru*

A. Galli, L. Bonizzoni, E. Sibilia, M. Martini

18 - *PXRF and multivariate statistics analysis of pre-colonial pottery from northeast of Brazil*

R.A. Ikeoka, C.R. Appoloni, P.S. Parreira, F. Lopes, A.M. Bandeira

19 - PIXE and PXRF comparison analysis of a standard canvas painting

C.R. Appoloni, F. Lopes, M.A. Rizzutto, A.C. Neiva, R. Ikeoka, A. Cacione, M. Rizzo

20 - Non Destructive Sourcing of Obsidians by PXRF

T.D. Galvão, F. Lopes, C.R. Appoloni

21 - Joaquin Sorolla's pigment characterization of the paintings "Vision of Spain" by means EDXRF portable system

C. Roldán, J. Ferrero, D. Juanes, V. Ripollés

22 - Pigment characterization of ancient Sicilian plasters

D. Majolino, E. Aquilia, G. Barone, V. Crupi, C. Ingoglia, F. Longo, P. Mazzoleni, V. Venuti

23 - Studies for Romanian archaeological gold identification using micro-SR-XRF and micro-PIXE

D. Cristea-Stan, B. Constantinescu, A. Vasilescu, M. Radtke, U. Reinholz, G. Popescu, A. Neacsu, D. Ceccato

24 - Evaluating the lead content in archeological bone specimens by in situ K X-ray fluorescence spectrometry

E. Da Silva, L.M. Egden, M.L. Carvalho, T. Lima, J.P. Marques, A. Pejović-Milić, D.R. Chettle

25 - XRF analysis of silver coins from the Ptolemaic period (4th–1st centuries BC)

V. Kantarelou, F.J. Ager, D. Eugenidou, F. Chaves, A. Andreou, E. Kontou, N. Katsikosta, M.A. Respaldiza, P. Serafin, A.G. Karydas

26 - Study of Prussian blue pigments by X-ray diffraction and X-ray absorption spectroscopy

L. Samain, F.-Ph. Hocquet, F. Hatert, G. Silversmit, L. Vincze and D. Strivay

27 - EDXRF, XRD and radiographic techniques for the restoration of relief "Madonna and Child" by Jacopo Sansovino – Museum of Budapest

G. Buccolieri, A. Buccolieri, L. Miotto, R. Casciaro, P. Quarta Colosso, V. Nassisi, A. Castellano

28 - Mersin-Yumuktepe potteries: microstructure and likely processing

A. Serra, G. Buccolieri, A. Buccolieri, D. Manno, I. Caneva, A. Pasquino

29 - EDXRF analysis of the oil paint of wooden panels displayed in the Pinacoteca of the Franciscan Convent in Igarassu, Recife

V. Asfora, S. Barreto, H. Khoury, R. A.D. de Araújo and N. J. S.Rego

30 - Analysis of pigments from Rock Painting sites of the Serra da Capivara National Park

H. L. Sullasi, V.K. Asfora, D. Cisneiros, A.M. Pessis and H.J. Khoury

31 - HRTEM microanalytical characterization of pigments and fillers used by Rubens in Spain and Belgium – Comparative study of two paintings in the Prado National Museum

M.I. Báez, J.L. Baldonado, J. Ramírez-Castellanos, L. Vidal, M.J. García-Molina

32 - *Microanalytical characterization of the inorganic materials in a mural painting from Cartagena Archaeological Site*

M.I. Báez, J.L. Baldonado, M.E. de León, L. Vidal, N. Rosales

33 - *Pattern-burnished ceramics from two Late Bronze Age settlements at the Portuguese left bank of the Guadiana River. Chemical, mineralogical and textural characterization*

J. F. Barreto, A. M. Lima and A.M.M. Soares

34 - *A critical analysis of the of EDXRF spectrometry application on complex stratigraphies*

L. Bonizzoni, C. Colombo, M. Gargano, S. Ferrati, M. Greco, N. Ludwig, M. Realini

35 - *A study on inclusions and metal composition of ancient copper-based artifacts by Micro-EDXRF and SEM-EDS*

E. Figueiredo, P. Valério, M.F. Araújo, R.J.C. Silva and A.M. Soares

36 - *X-Ray Compositional MicroAnalysis and Diffraction studies of Haltern 70 amphora sherds*

B.F.O. Costa, A.J.M. Silva, A. Ramalho, G. Pereira and M. Ramos Silva

37 - *XRF spectrometry in the study of polychrome terracotta*

C. Colombo, S. Bracci, C. Conti, R. Falcone, M. Greco, M. Realini

38 - *In situ EDXRF analysis of rock art pigments from “Abrigo dos Gaivões” and “Igreja dos Moros” caves (Portugal)*

M.J. Nuevo, A. Martín-Sánchez, C. Oliveira, J. de Oliveira

39 - *Scientific Investigations on Roman Silver Coins of the Emperor Trajan (AD 98–117)*

M. Rodrigues, F. Cappa, M. Schreiner, P. Ferloni, M. Radtke, U. Reinholz, B. Woytek, M. Alram

40 - *Insight on the blue and green palette of 15th to 18th frescoes in Southern Portugal: pigments, techniques and state of conservation by XRS techniques*

M. Gil, M.L. Carvalho, I. Ribeiro, M.J. Oliveira, S. Valadas, J. Mirão, A.E. Candeias

41 - *X-ray spectroscopy study on archaeological glass beads from Hor-Ek, central Thailand*

K. Won-in and P. Dararutana

42 - *Microanalysis of ancient glass beads found from Khao Sam Kaeo, southern Thailand using PIXE and EPMA*

S. Pongkrapan, Y. Thongkam, K. Won-in, P. Dararutana and P. Wathanakul

43 - *Potentiality of non destructive XRF for determining the provenance of archaeological potteries: the case of “Corinthian B” amphorae*

G. Barone, V. Crupi, F. Longo, D. Majolino, P. Mazzoleni, G. Spagnolo, V. Venuti, E. Aquilia

44 - *Study of two Baroque polychrome wooden sculptures*

S. Pessanha, A. Le Gac, M. Manso, M.L. Carvalho

45 - *Determination of the elemental composition of a 19th century book by EDXRF: understanding paper discoloration*

S. Pessanha, F. Figueira, M. Manso, A. Guilherme, M.L. Carvalho

46 - *Investigation of the Cinnabar usage in Neolithic period on the Territory of Serbia*

V. Andrić, M. Stojanović, M. Gajić Kvaščev, Ž. Šmit, V. Kantarelou

47 - *Characterization of pigments of faiences of Brazilian colonial period*

V. K. Asfora, M.E. Curado, H. Lavalle, M.A.G. de Albuquerque, H.J. Khoury, S.B. Barreto

X-ray sources, optics and detectors

48 - *Modified Internal Gate (MIGFET) X-Ray Detector*

A. Niemela, J. Seppälä, A. Aurola, H. Sipila and T. Tuuva

49 - *30 keV photon spectra reconstruction from flat panel images and Monte Carlo simulation*

B. Juste, R. Miró, A. Hushyar, G. Verdú

50 - *Characterization of a GPSC/MSGC hybrid detector for hard X-ray spectroscopy operating in a high pressure Xenon atmosphere*

L.C.C. Coelho, J.F.C.A. Veloso, D.S. Covita, L.F. Requicha Ferreira, J.M.F. dos Santos

51 - *Can the HVL help on the X-ray tube characterization?*

Florabela Rêgo, Luis Peralta, Mafalda Gomes

52 - *Energy-Dispersive μ X-Ray Diffraction with Polycapillary Optics in a Three-Dimensional Confocal Setup*

R.D. Perez, H.J. Sánchez, C.M. Sosa, C. Perez, M.L. Carvalho

53 - *Monte Carlo photoelectron extraction in mixtures of molecular gases: CH₄, CF₄ and CO₂*

J. Escada, P.J.B.M. Rachinhas, T.H.V.T. Dias, F.P. Santos, J.A.M. Lopes, C.A.N. Conde and A.D. Stauffer

54 - *X-ray detection performance of a high-pressure xenon gas proportional scintillation counter*

L.C.C. Coelho, J.A.M. Lopes, and J. M. F. dos Santos

55 - *Similarity between blackbody and synchrotron radiation analyzed by Tsallis entropy*

Jun Kawai, Hiroyuki Iwasaki, Koretaka Yuge, Ágnes Nagy

56 - *Response Function of the CdZnTe SPEAR Detector*

L. Marwaha

57 - *Peculiarities of X-ray planar extended guides built on base of polycrystalline ferrites reflectors*

V.K. Egorov, E.V. Egorov, M.S. Afanas'ev

WEDNESDAY - JUNE 23, 2010

Session 9: Life Sciences and Forensics

Room GA - Chair: Yohichi Gohshi

08:40 – 09:00

K shell x-ray fluorescence of trace elements in living human subjects

D.R. Chettle

09:00 – 09:20

KXRF Bone Lead Detector Performance and Energy Resolution

E. Treadwell, R. Gragg III, Dion Paul, M. Aarons, E. Tshabe

09:20 – 09:40

A miniature x-ray tube approach to measuring lead in bone using L-XRF

David E.B. Fleming, Mihai R. Gherase and Kevin M. Alexander

09:40 – 10:00

X-ray and IR micro-analysis studies of bone mineral and related biological samples

D. Eichert, C. Combes, P. Bleuet, M. Salomé and C. Rey

10:00 – 10:20

Characterization of geographic origins of foodstuffs by trace element signatures measured by XRF analysis

I. Nakaj, A. Otaka, T. Akamine and A. Hokura

Session 10: TXRF, GIXRF and related techniques

Room SA - Chair: K. Taniguchi

08:30 – 09:00

INVITED LECTURE:

Treatment of refraction effects in qualitative analysis of WD-XRF spectra

P.N. Brouwer

(PANalytical BV)

09:00 – 09:20

Recent advances and applications in TXRF of the Atominstitut X-ray group

P. Wobrauschek, C. Strelis, C. Horntrich, D. Ingerle, F. Meirer

09:20 – 09:40

GI-EXAFS of Arsenic ultra shallow junctions in Silicon formed by beamline and plasma immersion ion implantation and laser annealing

G. Pepponi, F. Meirer, M. A. Sahiner, D.

Giubertoni, S. Gennaro, E. Demenev, J.C.

Woicik, M. Bersani, M.A. Foad, C. Strelis and P. Pianetta

09:40 – 10:00

Determination of Trace Perchlorate Concentrations by Anion Selective Membranes and TXRF Analysis

V. Hatzistavros, N. Kallithrakas-Kontos

10:00 – 10:20

SR-based high-resolution GEXRF, a new technique to determine the depth distribution of dopants implanted in semiconductors

Y. Kayser, D. Banaś, W. Cao, J.-Cl. Dousse, J.

Hoszowska, P. Jagodziński, M. Kavčič, A.

Kubala-Kukuś, S. Nowak, M. Pajek, J. Szlachetko

10:20 -10:50 Coffee Break

Room GA - Chair: Johan Boman

10:50 – 11:10

Evaluation of environmental degradation in Dubrovacko-Neretvanska County in Croatia using multivariate statistical GIS-based approach

A. Kutle, L. Matjacic, J. Obhodas, K. Nad, V. Valkovic

11:10 – 11:30

Trace Elements Levels to Different Types of Breast Tumours in Dogs

S.S. Sakamoto, A.L. Andrade, M.C.R. Luvizotto, S. Will, M. Scapin, M. L. Carvalho, A. Antunes

11:30 – 11:50

A Scintillating Optical Fiber Dosimeter

Florbela Rêgo, Luis Peralta, Mafalda Gomes, M. Conceição Abreu

11:50 – 12:10

Interelemental correlations in liver and lung tissue of rats with alimentary adiposity (SRXRF)

V. Trunova, V. Zvereva, B. Churin

12:10 – 12:30

The Use of an X-Ray Fluorescence Spectroscopy System to Measure Strontium Incorporation and Retention in Human Bone

Helen Moise, Ana Pejović-Milić, David R. Chettle

12:30 – 14:00 Lunch**14:00 – 18:30 Excursion****10:20 -10:50 Coffee Break**

Room SA - Chair: Laszlo Vincze

10:50 – 11:10

Investigation of XSW related effects on reference-free quantitation of nanoparticles in TXRF

J. Osán, F. Reinhardt, B. Beckhoff, A.E. Pap, S. Török

11:10 – 11:30

Quantification Issues of Total Reflection X-Ray Fluorescence for Ultra Trace Surface Analysis

A. Nutsch, B. Beckhoff, R. Altmann, P. Hoenicke

11:30 – 11:50

Grazing Incidence X-ray Spectrometry for the Characterization of Deposited Nanoparticles

F. Reinhardt, B. Beckhoff, B. Pollakowski, H. Bresch, St. Seeger, U. Waldschläger

11:50 – 12:10

Probing buried interfaces by GIXRF-NEXAFS: The influence of post-deposition treatments of thin film silicon solar cells

M. Pagels, M. Wimmer, F. Reinhardt, B. Pollakowski, P. Hönicke, M. Müller, B. Beckhoff, K. Lips, B. Rech, A. Karyda, M.-C. Lepy, B. Kanngießner

12:10 – 12:30

Spectroscopy Studies at X-Lab LNF

D. Hampai, S.B. Dabagov, G. Cappuccio, V. Guglielmotti

12:30 – 14:00 Lunch**14:00 – 18:30 Excursion**

THURSDAY - JUNE 24, 2010

Session 11: Earth and environment sciences

Room GA - Chair: Liqiang Luo

08:30 – 09:00

INVITED LECTURE:

X-ray spectrometry in Earth Sciences: Recent development and Applications

Ignacio Queralt

(Institute of Earth Sciences “Jaume Almera”)

09:00 – 09:20

Source apportionment of PM_{2.5} in Nairobi, Kenya

J. Boman, J. B. C. Pettersson, M. J. Gatari, X. Zhang

09:20 – 09:40

Chemical characterization during sediment settling experiments for different rivers in Flanders

K. van Meel, P. Cant, E. Vanlierde, P. Jacobs, F. Mostaert, R. van Grieken

09:40 – 10:00

Metal concentrations in ambient airborne particulate matter in Finokalia, Greece (FAME08)

M. Furger, A. Richard, C. Mohr, C. Theodosi, N. Bukowiecki, P. Lienemann, U. Flechsig, K. Appel, N. Mihalopoulos, A.S.H. Prevot and U. Baltensperger

Session 12: Quantification methodology

Room SA - Chair: J. Sanchez

08:30 – 09:00

INVITED LECTURE:

Approaches to validation of results throughout the development of quantification methods in EXRS

R. Padilla-Alvarez, A. Markowicz, E. Chinea-Cano, A.G.Karydas

(International Atomic Energy Agency)

09:00 – 09:20

A new fundamental parameter based quantification procedure for micro-XRF data

T. Wolff, W. Malzer, I. Mantouvalou, O. Hahn, B. Kanngießer

09:20 – 09:40

Monte Carlo simulation code for confocal 3D micro-XRF analysis of stratified materials

M. Czyzycki, D. Wegrzynek, P. Wrobel, M. Lankosz, M. Bogovac, A. G. Karydas and A. Markowicz

09:40 – 10:00

Use of the CEARXRF GUI-Based Monte Carlo - Library Least-Squares (MCLS) Code for the XOS EDXRF Analyzer

Robin P. Gardner, Fusheng Li

10:00 – 10:20

Study on Cd storage and detoxification mechanism of tobacco by micro-XRF imaging and XAFS analyses using high-energy synchrotron radiation

A. Hokura, S. Takada, N. Kitajima, Y. Terada, T. Abe, and I. Nakai

10:00 – 10:20

Direct chemical characterisation of clay suspensions by WD-XRF

M.F. Gazulla, S. Dols, M. Orduña

10:20 -10:50 Coffee Break

Room GA - Chair: David Chettle

10:50 – 11:10

Analysis of Iron Ores Using the Compton Ratio Method with Theoretical Alpha Corrections in XRF

H. Homma, K. Kansai, Y. Yamada, Y. Kataoka, H. Kohno

10:20 -10:50 Coffee Break

Room SA - Chair: Joachim Heckel

10:50 – 11:10

Analysis of thin film solar cells with XRF and SEM-EDS

T. Salge, E. Blokhina, M. Haschke

11:10 – 11:30

Human health impact evaluation of Cu, Zn, As and Pb concentrations values in soils and sediments: proposal for a quality criteria in Croatia

J. Obhodas, A. Kutle, V. Valkovic

11:10 – 11:30

Statistical models for the analysis of samples with inhomogeneous structures and/or rough surfaces

M. Mantler, B. Beckhoff, M. Müller, J. Weser, M. Kolbe, D. Rammimair, A. Wittenberg

11:30 – 11:50

Analysis of aerosol samples collected by multi-stage cascade impactors by ED-XRF

E. Cuccia, V. Bernardoni, G. Calzolari, M. Chiari, L. La Gaccia, F. Lucarelli, D. Massabò, S. Nava, P. Prati, G. Valli, R. Vecchi

11:30 – 11:50

3D Micro-X-Ray Absorption Near Edge Spectroscopy (XANES)

L. Lühl, B. Hesse, I. Mantouvalou, E. Aloupi, A. Karydas, I. Zizak, O. Hahn, B. Kanngießer

11:50 – 12:10

Time and size resolved trace elements in ambient air analyzed with synchrotron XRF

A. Richard, M. Furger, N. Bukowiecki, P. Lienemann, U. Flechsig, K. Appel, A.S.H. Prevot, U. Baltensperger

11:50 – 12:10

Measurement of thin layers with XRF by a full Fundamental Parameter approach

B. Nensel, V. Rößiger

12:10 – 12:30

Speciation of Individual Mineral Particles of Micrometer Size by the Combined Use of ATR-FT-IR Imaging and Quantitative ED-EPMA Techniques

C.-U. Ro, H.-J. Jung, A. Malek, H. Kim

12:10 – 12:30

A statistical tool to deconstruct your sample into its parts: Non-Negative Matrix Approximation

G. Wellenreuther

12:30 – 14:00 Lunch

Room GA - Chair: Janos Osán

14:00 – 14:20

Analysis of dust particles and aerosols in a lead-polluted area by micro beam x-ray spectrometry

L. Luo, T. Xu

12:30 – 14:00 Lunch

Room SA - Chair: Koen Janssens

14:10 – 14:30

Using Multiple Excitations to measure a single sample with ED-XRF

J. Kessler, V. Röbiger

14:20 – 14:40

Analytical possibilities of TXRF for trace selenium determination in soils

E. Marguá, G. Floor, G. Roman-Ross, M. Hidalgo, I. Queralt, P. Kregsamer, C. Strelí

Session 13: Advanced materials and nanoscience

Room GA - Chair: Janos Osán

14:40 – 15:00

In situ XANES analysis of cathode materials for Li-ion batteries

J. Arčon, R. Dominko, M. Kůzma, A. Kodre, M. Gaberšček

Session 14: Industrial quality and process control

Room SA - Chair: Koen Janssens

14:30 – 15:00

INVITED LECTURE:
The Application of X-Ray Spectrometry on Quality and Process Control of Single Crystal Productions

S. Zhuo, R. Shen and C. Sheng

(Chinese Academy of Sciences)

15:00 – 15:20

Elemental depth profiling of Cu(In,Ga)Se₂ films by means of reference-free grazing incidence X-ray fluorescence analysis

C. Streeck, M. Müller, B. Beckhof3, F. Reinhardt, B. Kanngießner, C.A. Kaufmann, A. Karydas, M.-C. Lépy, H.W. Schock

15:20 – 15:40

Nanometer multilayers and high precision deposition - Advanced technologies for tailored X-ray optics

M. Krämer, R. Dietsch, T. Holz, D. Weißbach

15:40 – 16:00

X-Ray and Nonlinear Optics Studies of Triphenylguanidine salts

P.S. Pereira Silva, M. Ramos Silva, J.A. Paixão, A. Matos Beja

16:00 – 16:30 Coffee Break**16:30 – 17:10**

Fundamental Parameter Initiative – survey and discussion

(M.-C. Lépy, B. Beckhoff, M. Mantler)

17:10 – 18:30 Poster session**20:00 Banquet****15:00 – 15:20**

Standardless Identification of Jewellery Alloys with ED-XRF

S. Dill, P. Cave, A. Lewis

15:20 – 15:40

High-Speed XRF Mapping System for Monitoring Macro-Segregation of Cast Low Alloy Steels

N. Gao, D. Gibson, G. Kladnik, T. T. Natarajan, and S. R. Story

15:40 – 16:00

Evaluation of Stress-Strain Behavior of Surface Treated Steels by X-ray Diffraction

L. Coelho, A.C. Batista, J.P. Nobre, M.J. Marques

16:00 – 16:30 Coffee Break**16:30 – 16:50**

Improvement of precision level in X-ray analysis of liquid samples by application of internal standard method

Z. Mzyk, J. Anyszkiewicz, H. Matusiak

16:50 – 17:10

Analytical Method for All Materials Related to Cement Industry Using Fusion Preparation and WDXRF Analysis

M. Bouchard, S. Rivard, J. A. Anzelmo, A. Seyfarth, L. Arias, K. Behrens, S. Durali-Müller

17:10 – 18:30 Poster session**20:00 Banquet**

POSTER SESSION 3

X-ray sources, optics and detectors (cont'd)

1 - *Spherical compound X-ray lens for forming micro and nanosized beams*

Yu. I. Dudchik, F. F. Komarov

2 - *X-ray camera with high energy and spatial resolution: Sterography with a colour X-ray camera*

M. Radtke, O. Scharf, U. Reinholz, G. Buzanich, S. Bjeoumikhova, R. Wedell, S. Ihle, R. Gubzhokov, H. Soltau, H. Riesemeier, N. Langhoff

3 - *Next generation of X-ray capillary optics*

Semfira Bjeoumikhova, Anuar Bjeoumikhov

4 - *Design of X-ray quasi-monochromatic source based on ion-beam accelerator equipped with a X-ray focusing optical system*

V. Storizhko, V. Denysenko, A. Drozdenko, M. Iljashenko, L. Shabel'nikov, S. Vershinsky

5 - *Ellipsoidal Multilayer Optics for Micro XRF*

S. Rodrigues, P. Panine, P. Høghøj, B. Lantz

6 - *A grating spectrometer for the soft X-ray region*

T. Bidu, I. Mantouvalou, H. Legall, H. Stiel, W. Malzer, B. Kanngießer

7 - *Extension of Z-range for 3D micro-XRF by usage of new generation polycapillary optics*

T. Wolff, C. Seim, B. Hesse, D. Grötzsch, I. Mantouvalou, S. Bjeoumikhova, A. Bjeoumikhov, B. Kanngießer

8 - *Characterisation of the Hamamatsu S8664 avalanche photodiode for x-ray detection*

F.D. Amaro, O. Ballester, E.D.C. Freitas, G. Jover, J.A.M. Lopes, T. Lux, C.M.B. Monteiro, F. Sanchez, J.M.F. dos Santos

9 - *Pattern Recognition with SiPM's in NEXT*

M. Ball, on behalf of the NEXT collaboration

10 - *X-ray camera with high energy and spatial resolution: a colour X-ray camera*

O. Scharf, S. Bjeoumikhova, R. Wedell, S. Ihle, H. Soltau, R. Gubzhokov, M. Radtke, U. Reinholz, H. Riesemeier, N. Langhoff

11 - *High Performance Single- and Four-Element Large Area Silicon Drift Detector X-Ray Spectrometers for XRF Applications*

V.D. Saveliev, L. Feng, C.R. Tull, S. Barkan, M. Takahashi, E. Damron

12 - *Determination of emitted X-ray tube spectra by measurements with a calibrated setup*

V. Rackwitz, A. Warrikhoff, U. Panne, V.-D. Hodoroaba

13 - *How to determine experimentally the intrinsic resolution of a strip detector*

Victor V. Samedov

14 - *Si PIN Geiger Counter*

Y. Nakaye and J. Kawai

15 - *Determination of micro X-ray beam parameters with radiochromic films and X-ray spectrometry*

L. Trnková, T. Trojek

Advanced materials and nanoscience

16 - *Synthesis and speciation of BCxNy and SiCxNy films by XPS and TXRF-NEXAFS*

O. Baake, P.S. Hoffmann, A. Klein, W. Ensinger, B. Pollakowski, B. Beckhoff, M.L. Kosinova, N.I. Fainer, V.S. Sulyaeva, V.A. Trunova

17 - *Characterizing single-walled carbon nanotubes by X-ray spectrometry*

B. Pollakowski, L. Rispal, B. Beckhoff, and U. Schwalke

18 - *Assessment of a Methodology for the characterization of ultra shallow junction implants using soft X-ray GIXRF*

P. Hönicke, B. Beckhoff, M. Kolbe, D. Giuberton, J. v. d. Berg, G. Pepponi

19 - *Quantitative analysis of order-disorder phenomena in FeCo alloys using X-ray diffraction*

J.M. Loureiro, A.C. Batista, V. Khomchenko, B.F.O. Costa, G. Le Caër

20 - *X-Ray and Calorimetric Studies of the Naproxen-Isonicotinamide System*

Manuela Ramos Silva, Ricardo A. E. Castro, João D. B. Ribeiro, Joana Carneiro, Teresa M. R. Maria, Ana Matos Beja, João Canotilho, M. Ermelinda S. Eusébio

21 - *Structural investigation of SiGe nanocrystals embedded in dielectric matrix grown by magnetron sputtering deposition*

E.M.F. Vieira, S.R.C. Pinto, A.G. Rolo, A. Chahboun, M. Buljan, S. Levichev, S. Bernstorff, and M.J.M. Gomes

22 - *Complexing foils for preconcentration and determination of trace amounts of zinc and copper in water by wavelength-dispersive X-ray fluorescence spectrometry*

B. Zawisza, R. Sitko, E. Malicka

23 - *Energy-dispersive X-ray fluorescence analysis of the polycrystalline chromium chalcogenide compounds by the fundamental parameter method*

E. Malicka, B. Zawisza, R. Sitko, A. Gagor, T. Groń

24- *Microstructure and photoluminescence of CdS and CuxS nanoclusters formed in the matrix of a Langmuir-Blodgett film*

S. Trubina, S. Erenburg, K. Zhuravlev, L. Sveshnikova, S. Nikitenko

25 - *EXAFS study of Au-Au bond length in gold nanoparticle standards*

W. Szczerba, M. Radtke, U. Reinholz, H. Riesemeier, A.F. Thünemann

26 - *Application of X-ray spectroscopy methods for analysis of single crystals of selenospinel ZnCr₂Se₄ doped with V, Ga, In, Cd and Sb*

R. Sitko, E. Malicka, B. Zawisza, J. Heimann, D. Kajewski

27 - *XAFS characterization of Au nanoparticles within the cucurbit[7]uril cages*

S. Erenburg, S. Trubina, E. Kovalenko, O. Gerasko, V. Zaikovskii, V. Zacharenko, S. Nikitenko

28 - *Analysis of hydrothermally formed corrosion layers in Ni-base alloy 625 by combined FE-SEM/EDXS*

W. Habicht, N. Boukis, E. Hauer, E. Dinjus

Earth and environment sciences

29 - *Quantifying metals in edible plants grown in soils developed on gossanous materials of abandoned mines*

O.Gonzalez-Fernandez, M. J. Batista, M.L. Carvalho, M.M. Abreu, I.Queralt

30 - *Analytical approaches for Hg determination in waste water samples by means of total reflection X-ray spectrometry*

E.Marguí, P. Kregsamer, M.Hidalgo, J.Tapias, I.Queralt, C. Strelí

31 - *Non destructive Argentinean obsidians sourcing with portable EDXRF system*

F. Lopes, C. Bellelli, S.Y. Martínez Stagnaro, T.D. Galvão, M.L. Rueda, F.L. Melquiades, C.R. Appoloni

32 - *Simulation and EDXRF analysis of environmental aerosol loaded filters for heavy metal pollutants by Partial Least Squares*

G.W. Wepukhulu, K.H. Angeyo, A.O. Mustapha, J.M. Mangala

33 - *Energy dispersive X-ray fluorescence (EDXRF) applied to quantify limestone reactivity in acid mine drainage and geological CO₂-sequestration*

I. Queralt, F. G. Offeddu, J.Cama, J.M. Soler and R. Atanassova

34 - *Elemental composition of fine particulate matter (PM_{2.5}) in Skopje, FYR of Macedonia*

B. Kovacevik, A. Wagner, J. Boman, J. Laursen, J.B.C. Pettersson

35 - *Trace elements in fine particles (PM_{2.5}) and deposition samples - sources and environmental impact*

A. Wagner, J. Boman, M.J. Gatari

36 - *Trace elements in PM_{2.5} in two locations in Nairobi, Kenya*

J. Boman, M.J. Gatari, M.S. Gaita, M. Strömvald, S. Janhäll

37 - *Analysis of size-fractionated particulate matter by Total reflection X-Ray Fluorescence*

J. Boman, A. Wagner, M.J. Gatari

38 - *Metal preconcentration using extraction disks: Application to laboratory and benchtop XRF instrumentation*

K.Van Meel, C.Fontàs, A.García, R.Van Grieken, I.Queralt and M.Hidalgo, E.Marguí

39 - *X-Ray fluorescence determination of FeO content in rocks and iron ores*

V. Chubarov, A. Finkelshtein

40 - *Characterization of the arsenic contaminated aquifer sediments by ion microbeam, PIXE and ICP-OES techniques*

M. Ujević, S. Fazinić, C. Casiot, Ž. Duić, J. Halamić, L. Sipos, Ž. Dadić

41 - *Micro-XRF and micro-XANES study of the distribution and oxidation state of uranium in stalagmite*

D. Breitner, J. Osán, I.E. Sajó, Z. Siklósy, A. Demény, G. Falkenberg and K. Rickers-Appel

42 - *Trace element concentrations in freshwater bivalve shells (Unio sp.) as indicators of environmental change*

A. Demény, J. Osán, G. Schöll-Barna, P. Sümegi

43 - *Application of X-ray spectroscopy in geochemical analysis around mining environment*

O. Gonzalez-Fernandez, I. Queralt

44 - *Study of metals' content in plant leaves by means of energy dispersive X-ray fluorescence*

O. Gonzalez-Fernandez, I. Queralt and E. Navarro

45 - *Optimization of operational scenarios of an EDXRF facility for the determination of major and trace elements in environmental samples*

N.A. Valmantonis, P.K. Rouni, M.J. Anagnostakis

46 - *Multi-Element Analysis of Indoor Dust by WDXRF using the FP Method*

Valdirene O. Scapin, Marcos A. Scapin, Ivone M. Sato

Industrial quality and process control

47 - *Accuracy improvement method for on-line X-ray fluorescence analysis in workflow*

N. Alov, A. Volkov

48 - *Principal Component Analysis of EDXRF Spectra for Noninvasive Characterization of Complex Matrix Materials*

S. Gari, K.H. Angeyo, J. M. Mangala, A.O. Mustapha

49 - *Characterization of reference materials for thin gold and palladium layers based on gravimetric analysis, ED-XRF and Rutherford Backscattering*

S. Dill, V. Rößiger

Quantification methodology

50 - *On the properties and detection limits of the Amptek Mini-X+X-123 portable XRF spectrometer*

A. Kocsonya, I. Kovács, Z. Szőkefalvi-Nagy

51 - Quantitative HD-XRF analysis of arsenic in polyester resin

E. Desouza, F. McNeill, D. Chettle

52 - Towards a quantitative analysis using a portable micro-EDXRF spectrometer

J.M. Sampaio, S. Pessanha, M.L. Carvalho

53 - Heavy Metals Determination in Household Dust by Energy Dispersive X-Ray Fluorescence Spectrometry (EDXRF): Development and Validation of the Analytical Method

L. Cornejo, J. Acarapi, R. Espinoza, I. Valenzuela

54 - Measurement Uncertainty Evaluation of the WDXRF and EDXRF Techniques in the Chemical Characterization of Aluminum used in Nuclear Fuel of Type MTR

Marcos A. Scapin, Marília B. Nanes, Valdirene O. Scapin

55 - Implementation of a new Si (Li) detector response function (DRF) for XOS HDXRF analyzer results

Fusheng Li, Robin P. Gardner

56 - SRXRF-measurements at non planar objects: Automatic determination of the angle of incidence of the exciting X-ray

C. Grunewald, M. Radtke, U. Reinholz, H. Riesemeier

57 - L β 2 satellites spectra emitted due to a N-shell spectator vacancy

Surendra Poonia

FRIDAY - JUNE 25, 2010

Session 15: X-ray sources, optics and detectors

Room GA - Chair: Kouichi Tsuji

08:30 – 09:00

INVITED LECTURE:

Channeling of Radiations: from Leptons to X Photons

S.B. Dabagov

(Laboratori Nazionali di Frascati)

09:00 – 09:20

Characterization of a Bragg spectrometer equipped with large area spherically bent crystals

D.S. Covita, S. Boucard, H. Fuhrmann, A. Hirtl, D. Gotta, A. Gruber, P. Indelicato, E.-O. Le Bigot, J.M.F. dos Santos, S. Schlessler, P. Schmid, L.M. Simons, L. Stingelin, M. Trassinelli, J.F.C.A. Veloso, A. Wasser, J. Zmeskal

09:20 – 09:40

Compact Large Area Silicon Drift Detectors with Multi-layer Collimators

T. Eggert, R. Fojt, J. Knobloch, A. Pahlke, S. Pahlke, O. Scheid, R. Stötter, F. Wiest

09:40 – 10:00

Characterization of an EDXRF imaging system based on a MPGD

A.L.M. Silva, C.D.R. Azevedo, C.A.B. Oliveira, J.M.F. dos Santos, J.F.C.A. Veloso

10:00 – 10:20

HAPG – a new type of HOPG crystal for High Resolution Spectroscopy

I. Grigorieva, A. Antonov, H. Legall, H. Stiel, B. Kanngiesser, B. Beckhoff

Session 16: Art and Cultural Heritage

Room SA - Chair: Fátima Araújo

08:40 – 09:00

Recent development in scanning macro-XRF for the investigation of historical paintings

Matthias Alfeld, Koen Janssens, Joris Dik

09:00 – 09:20

ED-XRF analysis to determine the origin and authenticity of gemstones

P. Lemberge, D. Bonvin, F. Herzog, M.S. Krzemnicki

09:20 – 09:40

Portable XRF study of the pigments applied in Juan Hispalense's 15th century panel painting

A. Križnar, V. Muñoz, F. de la Paz, M.A. Respaldiza, M. Veja

09:40 – 10:00

Characterisation of ancient earthenware tiles from the Valencia Region, Spain, in the recovery of ceramic heritage

M.P. Gómez-Tena, E. Zumaquero, R. Caballero, M.F. Gazulla, A. Gozalbo

10:00 – 10:20

An X-ray spectrometry and absorption spectroscopy study of blue-and-white glazes from ancient Chinese porcelains

M.O. Figueiredo, T.P. Silva, J.P. Veiga

10:20 -10:50 Coffee Break

Room GA-Chair: Charalambos Zarkadas

10:50 – 11:10

Applications using a four-channel Silicon Drift Detector with annular geometry

R. Terborg, A. Käppel, T. Salge

11:10 – 11:30

The New Micromegas X-ray detectors in CAST

S. Aune, T. Dafni, G. Fanourakis, E. Ferrer-Ribas, J. Galán, A. Gardikiotis, T. Gerasis, I. Giomataris, H. Gómez, F.J. Iguaz, I.G. Irastorza, G. Luzón, J. Morales, T. Papaevangelou, A. Rodríguez, J. Ruz, A. Tomás, T. Vafeiadis, S.C. Yildiz

11:30 – 11:50

RMD avalanche photodiodes for X-ray detection in the muonic hydrogen Lamb shift experiment

L.M.P. Fernandes, on behalf of the CREMA Collaboration

11:50 – 12:10

A novel Laser-Plasma-Source for the 1 keV region

I. Mantouvalou, T. Bidu, R. Jung, H. Legall, H. Stiel, W. Malzer, B. Kanngießner

12:10 – 12:30

Characterisation of Polycapillary X-Ray Semi-lenses with SEM/EDX

V. Rackwitz, M. Procop, V.-D. Hodoroaba

10:20 -10:50 Coffee Break

Room SA - Chair: A. Castellano

10:50 – 11:10

Authenticity studies: Greco-roman brass sculptures or XIX century fakes?

E. Fragoso, M. Carvalhão, R.J.C. Silva, L.C. Alves, P.A. Rodrigues, A. Seruya, M. Castro Nunes

11:10 – 11:30

Investigation of burials of Pazyryk Altai (SRXRF)

N.Polosmak, V.Trunova, V. Zvereva

11:30 – 11:50

Total-reflection X-Ray fluorescence spectrometry for the analysis of particulate matter in the "Galleria dell'Accademia", Florence, Italy

G. Buccolieri, F. Adduci, S. Bracci, F. Falletti, A. Buccolieri, F. Carnevale, G. Paternoster, G. Palamà, A. Castellano

11:50 – 12:10

Travestite Hymenaeus seeing a dance in honor to Priapus: Nicola Poussin's painting examination by PXRF

C. R. Appoloni, P. S. Parreira, F. Lopes

12:10 – 12:30

Analysis of the Hoard of Beçin using X-ray based techniques

M. Rodrigues, M. Schreiner, M. Melcher, M. Guerra, J. Salomon, M. Radtke, M. Alram, N. Schindel

12:30 – 14:00 Lunch**Room GA - Chair: João Veloso****14:00 – 14:20**

Metallic Magnetic Calorimeters for the measurement of hard X-ray emission intensities

M. Rodrigues, M. Loidl, C. Le-Bret

14:20 – 14:40

Model-based nonlinear digital pulse processing electronics

P. Scoullar, C. McLean and R. Evans

14:40 – 15:00

Computed Tomography System Based on a MPGD

L.F.N.D. Carramate, C.A.B. Oliveira, A.L.M. Silva, H. Natal da Luz, C.D.R. Azevedo, M. Peres, A.M. da Silva, J.M.F. dos Santos, J.F.C.A. Veloso

15:00 – 15:20

New Detector Architecture with Silicon Drift Detectors for Diverse XRF Applications

A. Simsek, A. Niculae, H. Soltau, G. Lutz, P. Lechner, A. Bechteler, R. Eckhardt, K. Hermenau, A. Liebel, O. Jaritschin, G. Schaller, F. Schopper, L. Strüder

15:20 – 15:40

Application of Parametric X-ray Radiation to Diagnostic Radiology: a Theoretical Study

G. Di Domenico, P. Cardarelli, M. Gambaccini, M. Marziani, A. Taibi

15:40 – 16:00

Fabrication of superconducting tunnel junctions for soft X-ray spectrometers

M. Ukibe, S. Shiki, Y. Kitajima, M. Ohkubo

16:00 Conference closing**Coffee****12:30 – 14:00 Lunch****Room SA - Chair: José Paulo Santos****14:00 – 14:20**

Pb in ancient Chinese Cu-based coins: a multi-analytical survey

M.J. Furtado, M.F. Araújo, R.J.C. Silva

14:20 – 14:40

XIVth century tombs studied by X-ray techniques

Luís C.G.N. Freire, André F.V. Cortez, Vítor M.F. Gaspar, M. Ramos Silva, A. Matos Beja, Francisco J.P.P. Macedo, Francisco P.S.C.Gil

14:40 – 15:00

XRF and micro-SR-XRF studies for Dacian gold jewelry authentication

B. Constantinescu, A. Vasilescu, M. Radtke, U. Reinholz

15:00 – 15:20

Identification of four different coatings on the main altarpiece of the Coimbra Old Cathedral: X-ray spectrometry applications

A. Le Gac, A. I. Seruya, S. Pessanha, M. Manso, M. J. Oliveira and M. L. Carvalho

15:20 – 15:40

X-Ray Diffraction analysis of iron oxides and clay painting raw materials from Rajasthan State (NW India)

G. Cavallo, M.K. Pandit

15:40 – 16:00

EDXRF analysis of artifacts from Ancient Egypt using a portable system

C. Calza, R. P. Freitas, A. Brancaglion Jr., R. T. Lopes

16:00 Conference closing**Coffee**

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