



Physics of X-Ray and Neutron Multilayer Structures workshop
10 & 11 November 2016
 UNIVERSITEIT TWENTE.

Thursday November 10th (Building Gallery, Erlenmeyer)	
10:00-10:10	Opening Fred Bijkerk, University of Twente
10:10-10:50	<i>Keynote talk:</i> Multilayer X-ray Optics, Past and Future Eberhard Spiller
10:50-11:10	<i>Invited:</i> Multi-parameter Characterization of sub-nanometer Cr/Sc Multilayers based on Complementary Measurements Anton Haase, PTB
<i>Coffee break</i>	
11:40-12:00	Reconstruction of interfaces of periodic multilayer structures using model independent GIXR and XSW techniques Igor Makhotkin, University of Twente
12:00-12:20	X-ray at-wavelength metrology of multi-layered surfaces Sébastien Bérujon, ESRF
12:20-12:40	Self-consistent optical-constants of materials for EUV multilayer coatings Juan Larruquert, Instituto de Optica-CSIC
<i>Lunch</i>	
13:10-14:10	Poster session 1
14:10-14:30	<i>Invited:</i> DFT simulations of surfaces, interfaces and multilayers Peter Blaha, Inst. Materialchemie, TU Wien
14:30-14:50	Beryllium based multilayer mirrors for the EUV spectral range Vladimir Polkovnikov, Institute for Physics of Microstructures RAS
14:50-15:10	Tungsten growth on silicon oxide and boron carbide and additional role of spacer in the ultrashort period multilayer X-ray mirrors Matej Jergel, Institute of Physics SAS, Slovakia
15:10-15:30	Normal- and grazing incidence mirrors for 6.x nm wavelength Dmitry Kuznetsov, University of Twente
<i>Coffee break</i>	
16:00-16:20	<i>Invited:</i> Neutron multilayers Thierry Bigault, Institut Laue Langevin
16:20-16:40	The Hydrogenation Kinetics of a Magnesium Thin Film: An in-situ Neutron-Reflection and Optical-Transmission Study of a Two-Phase System Ad van Well, Delft University of Technology
16:40-17:00	Study of the in-plane magnetic structure of neutron polarizing multilayer mirrors Ryuji Maruyama, Japan Atomic Energy Agency
17:00-18:00	Lab tour XUV Optics group University of Twente
18:30	Drinks and dinner (Broeierd)

Friday November 11 th (Building Gallery, Erlenmeyer)	
09:00-09:20	<i>Invited:</i> Kossel X-ray standing-waves within a Cr/B ₄ C/Sc multilayer excited by protons Karine Le Guen , <i>Sorbonne Universités</i>
09:20-09:40	High reflective water window collector optics Hagen Pauer , <i>OptiX fab</i>
09:40-10:00	Current achievements in thin-film fabrication at HZG Michael Störmer , <i>Helmholtz-Zentrum Geesthacht</i>
10:00-10:20	Development of efficient and stable Al-based multilayer reflecting coatings for the EUV range Evgueni Meltchakov , <i>Laboratoire Charles Fabry</i>
<i>Coffee break</i>	
10:50-11:10	<i>Invited:</i> EUV optics lifetime - radiation damage, contamination, and oxidation Maarten van Kampen , <i>ASML</i>
11:10-11:30	Design, fabrication, and test of extreme ultraviolet microscope with 30-nm spatial resolution Mitsunori Toyoda , <i>IMRAM, Tohoku University</i>
11:30-11:50	Hard X-ray multilayers with increased radiation resistance Mauro Prasciolu , <i>DESY</i>
11:50-12:10	Stability issues in Pd/B ₄ C multilayers Christian Morawe , <i>ESRF</i>
<i>Lunch</i>	
12:40-13:40	Poster session 2
13:40-14:00	<i>Invited:</i> Optimization and application of attosecond multilayers Alexander Guggenmos , <i>Ludwig-Maximilians-Universität München</i>
14:00-14:20	Periodic multilayers and FEL radiation Philippe Jonnard , <i>Sorbonne Universités</i>
14:20-14:40	Stress optimization of multilayer Laue lens coatings Stefan Braun , <i>Fraunhofer IWS Dresden</i>
14:40-15:00	X-ray nanometer focusing at the SSRF basing on multi-layer Laue lens Jiayi Zhang , <i>Beijing Synchrotron Radiation Facility</i>
<i>Break</i>	
15:20-15:40	Structural and reflective characteristics of Mo/Be multilayer with barrier layers Nikolai Chkhalo , <i>Institute for Physics of Microstructures RAS</i>
15:40-16:00	Complete characterisation of a multilayer coated reflection grating by atomic force microscopy (AFM), X-ray diffraction (XRD) and grazing incidence X-ray fluorescence analysis (GIXRF) Werner Jark , <i>Elettra – Sincrotrone Trieste</i>
16:00-16:20	Accurate computation of the X-ray diffraction efficiency of a multilayer coated grating based on a non-conformal deposition model Francois Polack , <i>Synchrotron SOLEIL</i>
16:20-16:40	High Efficiency Multilayer coated Blazed Grating for tender X-rays Andrey Sokolov , <i>Helmholtz Zentrum Berlin</i>
16:40-17:00	Closing remarks

Recommendations for presenters:

Invited and regular talks: 15 minutes + 5 minutes for discussion



Poster sessions

Poster Session 1 (10 November 13:10 – 14:10)

- Cr/C multilayer mirror for Ni-like Ta X-ray laser application
Mingqi Cui, *Beijing Synchrotron Radiation Facility*
- Testing of Reflective Quarter-Wave Retarder in EUV Range
Ahmed Gaballah, *University of Padova*
- In-house X-ray Standing Wave study of LaN/B multilayer mirrors
Cedric Hendrikx, *University of Twente*
- Development of high reflectance Cr/V multilayer mirror for water window applications
Qiushi Huang, *Tongji University*
- Interface Growth in FeCo-Si Multilayers determined with atomic resolution
Thomas Krist, *Helmholtz-Zentrum Berlin*
- Grazing incidence EUV surface metrology: benchmarking of DPP source table-top scatterometry versus PTB synchrotron based EUV-Radiometry
Oleksiy Maryasov, *Physikalisch-Technische Bundesanstalt*
- In-situ stress measurement of thin film and multilayer deposition
Johan Reinink, *University of Twente*
- Development of multilayer coated replicated neutron focusing optics
Suzanne Romaine, *Smithsonian Astrophysical Observatory*
- The At-Wavelength Metrology facility for UV- and XUV reflection and diffraction optics at BESSY-II
Franz Schaefers, *Helmholtz-Zentrum Berlin*
- Characterization of chemical processes and interfacial diffusion in Pd/Y multilayers using HAXPES induced by standing waves
M.-Y. Wu, *Sorbonne Universités*
- Development of XUV multilayer coatings in IOF
Sergiy Yulin, *Fraunhofer Institut Angewandte Optik und Feinmechanik*
- Interface engineering method for ultra-thin Cr/Ti soft x-ray multilayer
Jingtao Zhu, *Tongji University*



Poster sessions

Poster Session 2 (11 November 12:40 – 13:40)

- EBL2: high power EUV exposure facility
Herman Bekman, TNO
- Multilayer Laue lenses for hard X-ray microscopy
Nathalie Bouet, Brookhaven National Laboratory
- CeMOX, a Collaborative facility for Development of High Performance Multilayer Optics
Blandine Capitanio, Groupe Optique Synchrotron Soleil
- In-vacuo growth studies and thermal oxidation of ZrO₂ thin films
Roger Coloma Ribera, University of Twente
- The new 1 – 5 keV high efficiency alternate multilayer grating for SOLEIL SIRIUS beamline
David Denetiere, Groupe Optique Synchrotron Soleil
- Design, Development and characterization of thin film filters for high brilliance sources in the UV-X-ray Spectral range.
Kety Jimenez, Padova University
- Nonequilibrium electron-phonon dynamics in ruthenium thin films exposed to ultra-short laser pulses
Igor Milov, University of Twente
- Thermal stability and mechanical stress of B-based multilayers
Philipp Naujok, Fraunhofer Institute for Applied Optics and Precision Engineering IOF
- Fabrication, characterization and application of large aperture multilayer Laue lenses
Sven Niese, AXO DRESDEN GmbH
- Numerical modelling of reflective multilayer based X-ray optics
Pierre Piault, ESRF The European Synchrotron
- Thin film based Optical Elements for Analytical X-ray Applications
Jörg Wiesmann, Incoatec GmbH