Reviewed publications

Names of graduate students are underlined.

1. X-ray absorption and emission spectroscopic investigation of Mn doped ZnO films

2. Electronic structure of Lithium metagallate

3. Pb⁺ implanted SiO₂ probed by soft X-ray emission and absorption spectroscopy

4. Anion bond ordering in spinel-type gallium oxonitride

5. Electronic Structure of the Si-C-N Amorphous Films

6. Nature of the electronic states involved in the chemical bonding and superconductivity at high pressure in SnO

7. Molecular orientation and optical luminescence properties of soluble star-shaped oligothiophene molecules for organic electronics applications

8. Electron dynamics of transition metal compounds studied with resonant soft x-ray scattering


10. Ca₃N₂ and Mg₃N₂: unpredicted high-pressure behaviour of binary nitrides

11. Valence Structure of Alkaline and Post-Transition Metal Oxides
    J.A. McLeod, R.J. Green, N.A. Skorikov, L.D. Finkelstein, M. Abu-Samak, E.Z. Kurmaev, and A. Moewes (proceedings of the SPIE2011 Photonics West conference).


13. **Evaluation of Antioxidant Activity and Electronic Structure of Aspirin and Paracetamol**

14. **Charge transfer and band gap of ferrocene intercalated into TiSe$_2$**

15. **RIXS approach to local environment around impurity atoms in diluted magnetic semiconductors and dielectrics**

16. **Material Properties and Structural Characterization of M$_3$Si$_6$O$_{12}$N$_2$:Eu$^{2+}$ (N=Ba, Sr)**
   A Comprehensive Study on a promising green phosphor for pc-LEDs

17. **Correlation effects in Ni 3d states of LaNiPO**

18. **Band gaps and Electronic structure of alkaline-earth and post-transition metal oxides**

19. **Electronic structure of Mn in (Zn,Mn)O probed by resonant X-ray emission spectroscopy**

20. **Class of tunable wide band gap semiconductors $\gamma$-(Ge$_x$Si$_{1-x}$)$_3$N$_4$**

21. **Interfacial Properties and Characterization of Sc/Si Multilayers**

22. **Electronic structure of BiMeO$_3$ multiferroics and related oxides**

23. **Valence band structure and X-ray spectra of oxygen deficient ferrites SrFeO$_x$**

24. **Electronic structure of Mn in (Zn,Mn)O probed by resonant X-ray emission spectroscopy**
25. **Electronic structure and band gap determination of solid solutions of $\gamma$-(Si$_3$N$_4$-Ge$_3$N$_4$)**

26. **Interfacial Properties and Characterization of Sc/Si Multilayers**

27. **Electronic structure of BiMeO$_3$ multiferroics and related oxides**

28. **Valence band structure and X-ray spectra of oxygen deficient ferrites SrFeO$_x$**

29. **Element-specific electronic structure of Mn dopants and ferromagnetism of (Zn,Mn)O thin film**

30. **Electronic properties of pyroxenes NaCrSi$_2$O$_6$ and NaFeSi$_2$O$_6$**

31. **Metal-insulator transition in NiS$_{2-x}$Se$_x$**

32. **Structural models of FeSe$_x$**

33. **Effect of N, C and B interstitial atoms on local bonding structure in mechanically activated TiH$_2$/h-BN, TiH$_2$/C and TiH$_2$/B mixtures**

34. **Contribution of Fe 3d-states to the Fermi level of CaFe$_2$As$_2$**

35. **Identifying valence structure in LiFeAs and NaFeAs with core-level spectroscopy**

36. **Strength of correlation in pnictides and its assessment by theoretical calculations and spectroscopy experiment**
37. A comparative theoretical and experimental study of the radiation induced decomposition of Glycine

38. Electronic structure of hydrogenated amorphous Si$_{1-x}$N$_x$ films using soft X-ray emission and absorption measurements

39. Ti/C and Ti/B Nanocomposites: Comparison of Sorption-Desorption Properties

40. Co and Al co-doping for ferromagnetism in ZnO:Co diluted magnetic semiconductors

41. Thermodynamic and kinetic factors effecting hydrogen absorption on metal hydrides

42. Determining the $sp^2/sp^3$ bonding concentrations of carbon films using X-ray absorption spectroscopy

43. Characterization of oxide layers formed on chemically treated Ti by using soft X-ray absorption measurements

44. X-ray emission and photoluminescence Spectroscopy of nanostructured Silica with implanted copper ions

45. Unipolar-to-ambipolar conversion of rubrene thin-film transistors by organosilene self-assembled monolayer

46. X-ray spectra and electronic structures of the iron arsenide superconductors RFe$_4$AsO$_{1-x}$F$_x$ (R=La, Sm)

47. Ti/C and Ti/h-BN nanocomposites: comparison of hydrogen sorption/desorption properties

48. Influence of 2-mercapto-5-nitrobenzimidazole treatment on the electronic characteristics of bottom-contact organic field-effect transistors
49. RIXS spectra and electronic structure of Sc and Ti dihydrides

50. Characterization of chemically treated bioactive Ti using soft X-ray fluorescence

51. Defect-induced Ferromagnetism in Mn-doped Cu$_2$O

52. X-ray spectra and electronic structure of FeAs superconductors

53. Oxygen X-ray emission and absorption spectra as a probe of electronic structure in strongly correlated systems

54. Effect of h-BN additive on hydrogen sorption by Ti under mechanical treatment in H$_2$/He flow

55. Energy Band structure and X-ray Spectra of Phenakite Be$_2$SiO$_4$

56. The attachment of Amino Fragment to purine: Inner-shell structures and spectra

57. Substituent Effects in the Iron 2p and Carbon 1s edge Near-Edge X-ray Absorption Fine Structure (NEXAFS) Spectroscopy of Ferrocene Compounds

58. Effects of NH$_3$, O$_2$, and N$_2$ co-implantation on Cu out-diffusion and antimicrobial properties of copper plasma-implanted polyethylene

59. Probing Interfacial characteristics of rubrene/pentacene and pentacene/rubrene bilayers with soft X-ray spectroscopy

60. Ti/C and Ti/h-BN nanocomposites: comparison of hydrogen sorption/desorption properties

61. Local electronic structure of Mn dopants in ZnO probed by resonant inelastic scattering
62. Effect of Co and O defects on the magnetism in Co-doped ZnO: Experiment and Theory

63. Electronic structure of NPB and BCP molecules probed by X-ray emission spectroscopy

64. Optical XAFS of ZnO Nanowires at the Zn K-edge and Related Phenomena

65. Post-annealing effect on the electronic structure of Mn atoms in Ga$_{1-x}$Mn$_x$As probed by resonant inelastic X-ray scattering

66. Electronic structure of a Mn$_{12}$ molecular magnet: Theory and experiment

67. X-ray Photoelectron and Carbon Kα emission measurements and calculations of O-, CO, N-, and S-containing Substances

68. An X-ray emission and density functional theory study of Zn$_{1-x}$Mn$_x$S

69. Buffer layer effect on the structural and electrical properties of rubrene-based organic thin-film transistors

70. Experimental and Theoretical Investigation of the Electronic Structure of 5-Fluourouracil Compounds

71. Soft X-ray absorption and emission characterization of nanodiamond prepared by explosive detonation
72. X-ray absorption of nitrogen doped amorphous carbon films for determining sp$^2$/sp$^3$ bonding concentrations

73. Probing changes in the Mn 3d band of Sm$_{0.525}$Sr$_{0.475}$MnO$_3$ induced by oxygen isotope substitution

74. Solid versus solution: Examining the electronic structure of metallic DNA with soft X-ray spectroscopy and density functional theory

75. Dependence of DNA Electronic Structure on Environmental and Structural Variations

76. X-ray 2p photoelectron and L$\alpha$ resonant X-ray emission spectra of the 3d metals in Ni$_2$MnZ (Z=In, Sn, Sb) Heusler alloys

77. Electronic structures of LiFePO$_4$ and FePO$_4$ studied using resonant inelastic X-ray scattering

78. Electronic structure and charge carriers in metallic DNA investigated by soft X-ray spectroscopy

79. Clustering of impurity atoms in Co-doped anatase TiO$_2$ thin films probed with soft X-ray fluorescence

80. Combined X-ray absorption spectroscopy and density functional theory examination of ferrocene labeled peptides

81. Uniaxial in-plane magnetic anisotropy of a CoPt film induced by ion irradiation

82. On the bonding situation in TiCo$_2$Se$_2$

83. The Origin of an Elastic Line in the L$_3$ X-ray Emission Spectrum of Metallic Manganese
84. Influence of Graphite Addition on the Reactivity of Ti Powder with \( H_2 \) under Ball Milling  

85. Electronic structure of boron nitride single crystals and films  

86. Chemical reaction at the interface between pentacene and \( HfO_2 \)  

87. Ion irradiation induced reduction of \( Fe^{3+} \) to \( Fe^{2+} \) in triethoxysilane films  

88. X-ray Photoelectron and Carbon K\( \alpha \) Emission Spectral Analysis of Polymers by DFT Calculations using QM/MM Method  

89. An indirect probe of the half-metallic nature of \( LiFePO_4 \) using resonant inelastic X-ray scattering  

90. Resonantly Excited Cascade X-ray Emission from \( La \)  

91. Plasma-enhanced synthesis of diamond nanocone films  

92. The effects of bias polarity on diamond deposition by hot-filament chemical vapor deposition  

93. Local Environment of Fluorine Atoms in \( Sr_2Ca_{n-1}Cu_nO_{2n+1}F_{2y} \) (\( n=2,3 \)) High-Temperature Superconductors Grown under High Pressure  

94. Analysis of octadecyltrichlorosilane effects on organic thin film transistor by using soft X-ray fluorescence  

95. The \( L_2:L_3 \) intensity ratio in soft X-ray emission spectra of 3d-metals

96. The electronic structure of DNA nucleobases

97. Electronic structure of KTaO₃: A combined spectroscopic investigation

98. Electronic structure of carbosulfide superconductors

99. Experimental Evidence of the Hybridization of the Electron States of an Impurity and the Conduction Band in the HgSe:Fe System

100. Studying 4d – 4f transitions in Er using resonant inelastic scattering

101. Photon-in photon-out studies of Alq3 (tri-aluminum-8-hydroxyquinolinate): synchrotron light excited optical luminescence and X-ray emission

102. Resonant Lα,β X-ray emission and L₂,3 absorption spectra of 3d metals in Co₂MnZ (Z=Al, Ga, Sn, Sb) Heusler alloys as an element-selective probe of spin-character of valence band

103. Analysis of the electronic structure of human hemoglobin from soft X-ray emission

104. Monitoring 5p–4d soft X-ray emission of La when exciting through the low-lying 3d – 4f threshold

105. Properties of Non-Equivalent Sites and Band Gap of Spinel-Phase Silicon Nitride

106. Influence of the Coulomb Parameter U on Partial Density of States of CuGeO₃

107. The electronic structure and optical properties of silicon nanowires: a study using X-ray excited optical luminescence and X-ray emission spectroscopy
108. *Soft X-ray Spectroscopy of Nucleobases, B-DNA and Ferrocene-proline conjugates*

109. *Resonant inelastic soft X-ray scattering and electronic structure of LiBC*

110. *Soft X-ray emission studies of biomaterials*

111. *Electron correlation effects in band structure of magnetic clusters Mn12 and Fe8*

112. *Electronic Structure of Transition-Metal Dicyanamides Me[N(CN)2]2 (Me=Mn, Fe, Co, Ni, Cu)*

113. *Tight-Binding Model for the X-ray Absorption and Emission Spectra of Dilute GaNAs1-x at the Nitrogen K-Edge*

114. *Testing the magnetism of polymerized fullerene*

115. *Electronic structure and thermoelectric properties of skutteride antimonides*

116. *Analysis of Electron Spectra of Carbon Allotropes (Diamond, Graphite, Fullerene) by DFT Calculations using the Model Molecules*

117. *Isomer structure of high-pressure hydrofullerene probed by soft X-ray emission*

118. *The electronic structure and chemical bonding of Vitamin B12*

119. *X-ray emission spectroscopy study of the Verwey transition in Fe3O4*
109. Band dispersion of MgB$_2$, graphite and diamond from resonant inelastic scattering

110. Half-metallic electronic structure of CrO$_2$ in resonant scattering

111. Electronic structure of magnetic molecules V$_{15}$: LDA+U calculations, X-ray emissions, and photoelectron spectra

112. X-ray emission spectra of vanadium atoms in a new series of (Cu,V) based high-$T_c$ superconductors

113. Electronic Structure and Bonding in Vitamin B$_{12}$ Cyanocobalamin

114. $\sigma$ and $\pi$-band dispersion of graphite from polarized resonant inelastic X-ray scattering measurements

115. Interlayer conduction band states in graphite-sulfur composites

116. Electronic structure of niobium oxides

117. Angular rotation of magnetic hysteresis of ion-irradiated ferromagnetic thin films

118. Local electronic structure of doping atoms in MA$_2$Ca$_{(n-1)}$Cu$_n$O$_{(2n+3)}$ high-Tc superconductors with $[M-12(n-1)n]$ type structures

119. Polymer conversion into amorphous ceramics by ion irradiation

120. Effect of Co-doping on the electronic structure of MgCNi$_3$
132. Probing oxygen and nitrogen bonding sites in chitosan by X-ray emission

133. Electronic structure of the molecule-based magnet Mn[N(CN)₂]₂ from theory and
   experiment
   M.R. Pederson, A.Y. Liu, T. Baruah, E.Z. Kurnaev, A. Moewes, S. Chiuzbăian, M.
   8 (2002).

134. Electronic structure of alkali metal-doped M₈Si₄₆ (M=Na, K) clathrates
   A. Moewes, E.Z. Kurnaev, J.S. Tse, M. Geshi, M.J. Ferguson, V.A. Trofimova, and

135. Valence band spectra of BEDT-TTF and TTF-based magnetic charge-transfer
   salts

136. Soft X-ray fluorescence measurements in materials science

137. Characterization of CNₓ-films by X-ray Fluorescence Measurements
   E.Z. Kurnaev, R.P. Winarski, A. Moewes, S.N. Shamin, D.L. Ederer, J.Y. Feng and

138. The electronic structure of TPD films grown by different methods

139. Electronic structure of MgB₂: X-ray emission and absorption studies
   E.Z. Kurnaev, I.I. Lyakhovskaya, J. Kortus, A. Moewes, N. Miyata, M. Demeter, M.
   65, 134509-134512 (2002).

140. Electronic structure of charge transfer salts
   Kobayashi, S. Kagoshima, Y. Misaki, D.L. Ederer, K. Endo, and M. Yanagihara,

141. Multi-Atom Resonances and Soft X-ray Emission

142. X-ray transitions for studying the electronic structure of 5d metals

143. The electronic structure of Ion Beam Mixed ferromagnetic multilayered films

144. Electronic structure of graphite fluorides
   E.Z. Kurnaev, A. Moewes, D.L. Ederer, H. Ishii, K. Seki, M. Yanagihara, F. Okino,
145. Local and electronic structure of carbon and nitrogen atoms in oxycarbonitrate superconductors

146. Electronic structure of thiophenes and phthalocyanines

147. X-ray emission TaN$_3$ and NbL$_3$ spectra of NbC-TaC solid solutions

148. Spectroscopic observation of polaron-lattice band structure in conducting polymers: X-ray fluorescence measurements of polyaniline

149. Theoretical X-ray photoelectron and emission spectra of Si- and S-containing polymers by density-functional theory calculations using model molecules

150. No multiatom resonances observed in X-ray fluorescence

151. Soft X-ray fluorescence and photoluminescence of Si nanocrystals embedded in SiO$_2$

152. X-ray fluorescence measurements of advanced organic materials

153. Diffusion of TiN into aluminum films measured by soft X-ray spectroscopy and Rutherford backscattering

154. Soft X-ray fluorescence study of the quasi-one-dimensional Heisenberg antiferromagnet Tetraphenylverdazyl

155. Resonant mixing of widely separated intermediate states and charge transfer at the 4d-4f resonance of La compounds

156. Interaction of Cu 3d and O 2p states in Mg$_{1-x}$Cu$_x$O-solid solutions with the NaCl-structure: X-ray photoelectron and X-ray emission study

157. **Electronic structure of molecular superconductors containing paramagnetic 3d ions**

158. **Soft X-ray Scattering Dominates Emission near the Giant Resonance of the Rare Earth Compounds**

159. **Chemical reactions in polymers induced by ion beam mixing: Fluorescence X-ray measurements**

160. **The Effects of Boron Impurities on the Atomic Bonding and Electronic Structure of Ni$_3$Al**

161. **Electronic Structures of the Tungsten Borides WB, W$_2$B, and W$_2$B$_5$**

162. **Electronic structure of Cu$_{1-x}$Ni$_x$Rh$_2$S$_4$ and CuRh$_2$Se$_4$: band structure calculations, X-ray photoemission and fluorescence measurements**

163. **Resonant Raman Scattering in Nd$_3$O$_3$ and the Electronic Structure of Sr$_2$RuO$_4$ Studied by Synchrotron Radiation Excitation**

164. **Ion-implantation effects in Al$_2$O$_3$: X-ray fluorescence measurements**

165. **Combined study for KNbO$_3$ and KTaO$_3$ by different techniques of photoelectron and X-ray emission spectroscopy**

166. **Electronic properties of Ion-Beam Mixed Co/Pt multilayered films**
167. Electronic Structure of KNbO$_3$: Nb M$_{4,5}$ X-ray Fluorescence Measurements

168. Band Approach to the excitation energy dependence of soft X-ray fluorescence of TiO$_2$

169. Decay mechanisms of the 4d core hole through the 4d-4f resonance in Dysprosium

170. X-ray fluorescence study of organic-inorganic polymer conversion into ceramics induced by ion irradiation

171. Probing electron correlation, charge-transfer and Coster-Kronig transitions at the 3d and 4d thresholds of Nd by resonant inelastic scattering

172. Resonant inelastic scattering at the 3d and 4d thresholds of La compounds

173. Mechanism for interfacial adhesion strength of an ion beam mixed Cu/polyimide with a thin buffer layer

174. Study of 4f inner shell excitations in Gd and Tb using resonant inelastic soft X-ray scattering

175. X-ray Emission and Photoelectron Spectra of Pr$_{0.5}$Sr$_{0.5}$MnO$_3$

176. X-ray Fluorescence measurements of organic superconductors k-(ET)$_2$Cu[N(CN)$_2$]Br and k-(ET)$_2$Cu(NCS)$_2$
177. **Examples of soft X-ray emission and inelastic scattering excited by synchrotron radiation**  

178. **Electronic Structure of Superconducting Inorganic Polymer (SN)ₓ**  

179. **Radiation-Induced Degradation of Polyethersulphone Films Studied by Fluorescent X-ray Emission Spectroscopy**  

180. **X-ray emission and photoelectron spectra of Pr₀.5Sr₀.5MnO₃**  

181. **X-ray emission study of ion beam mixed Cu/Al films on polyimide**  

182. **Soft X-ray Fluorescence Measurements of Irradiated Polyimide and Polycarbosilane Films**  

183. **Soft X-ray Fluorescence of Irradiated Polyimide and Polycarbosilane Films**  

184. **Soft X-ray emission spectroscopy of early-transition-metal compounds**

188. Soft X-ray fluorescence measurements of Irradiated polymer films

189. Soft X-ray Emission Excited Resonantly and Nonresonantly by Synchrotron Radiation

190. Raman scattering at the L-edge of transition metals

191. Development of a Hard X-ray Microprobe at CAMD

192. New Optics for the Hard X-ray Microprobe at CAMD

193. Soft X-ray stimulated luminescence microscopy and spectroscopy on Gd$_2$O$_2$S : Pr$^{3+}$ and (Y,Gd)$_2$O$_3$ : Eu$^{3+}$ ceramics

194. Soft X-ray Spectromicroscopy

195. Optical luminescence spectroscopy with the scanning soft X-ray microscope at HASYLAB/DESY

196. Scanning Luminescence Microscopy at HASYLAB/DESY

197. Soft X-ray Microscopy at HASYLAB/DESY

198. Grazing Incidence Optics for Soft X-ray Microscopy
199. *Microspectroscopy and spectromicroscopy at the Hamburg focusing mirror microscope*

200. *A Scanning Soft X-ray Microscope with an Ellipsoidal Focusing Mirror*

201. *Microprobe Photoemission Spectroscopy with the Hamburg Focusing Mirror Microscope*

202. *Technical Realization and First Images of the Hamburg Focusing Mirror Scanning Microscope*