

## **Reviewed publications**

Names of graduate students are underlined.

1. *X-ray absorption and emission spectroscopic investigation of Mn doped ZnO films*  
J. Jin, G.S. Chang, Y.X. Zhou, X.Y. Zhang, D.W. Boukhvalov, E.Z. Kurmaev, and A. Moewes, Appl. Surf. Science 257, 10748-10751 (2011).
2. *Electronic structure of Lithium metagallate*  
N. Johnson, J.A. McLeod and A. Moewes, J. Phy. Cond. Matt. 23, 445501-6 (2011).
3. *Pb<sup>+</sup> implanted SiO<sub>2</sub> probed by soft X-ray emission and absorption spectroscopy*  
D.Z. Zatsepin, A. Hunt, A. Moewes, E.Z. Kurmaev, N.V. Gavrilov, I.S. Zhidkov, and S.O. Cholakh, Journal of Non-crystalline solids 357, 3381-3384 (2011).
4. *Anion bond ordering in spinel-type gallium oxonitride*  
T.D. Boyko, C.E. Zvoriste, I. Kinski, R. Riedel, S. Hering, H. Huppertz, and A. Moewes, Phys. Rev. B 84, 085203-1-6 (2011).
5. *Electronic Structure of the Si-C-N Amorphous Films*  
D.A. Zatssepin, E.Z. Kurmaev, A. Moewes, and S.O. Cholakh, Physics of the Solid State 53, 1806-1810 (2011).
6. *Nature of the electronic states involved in the chemical bonding and superconductivity at high pressure in SnO*  
J.A. McLeod, A.V. Lukoyanov, E.Z. Kurmaev, L.D. Finkelstein, and A. Moewes, JETP Letters 94, 146-150 (2011).
7. *Molecular orientation and optical luminescence properties of soluble star-shaped oligothiophene molecules for organic electronics applications*  
R.G. Wilks, G.S. Chang, K.H. Kim, D.H. Choi, and A. Moewes, J. Electr. Spectr. Rel. Phen. 184, 355-359 (2011).
8. *Electron dynamics of transition metal compounds studied with resonant soft x-ray scattering*  
J. Jimenez-Mier, G. Herrera-Perez, P. Olalde-Velasco, G. Carabali, E. Chavira, P. de la Mora, W.L. Yang, J. Denlinger, A. Moewes, R. Wilks, Proceedings of 6th International Symposium on Radiation Physics, March 7-10, 2010 Zacatecas, Mexico) – Revista Mexicana de la Fisica 57, 6-13 (2011).
9. *Identifying Local Dopant Structures and their Impact on Magnetic Properties in Spintronic Materials*  
R.J. Green, G.S. Chang, X.Y. Zhang, A. Dinia, E.Z. Kurmaev, and A. Moewes, Phys. Rev. B 83, 115207-1-6 (2011).
10. *Ca<sub>3</sub>N<sub>2</sub> and Mg<sub>3</sub>N<sub>2</sub>: unpredicted high-pressure behaviour of binary nitrides*  
Cordula Braun, Saskia Börger, Teak Boyko, Gerhard Miehe, Helmut Ehrenberg, Peter Höhn, Alexander Moewes, and Wolfgang Schnick, Journal of the American Chemical Society 133, 4307-4315 (2011).
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).
12. *Appearance of Ferromagnetism in Co-Doped CeO<sub>2</sub> Diluted Magnetic Semiconductors Prepared by Solid State Reaction*

- A. Bouaine, R.J. Green, S. Colis, P. Bazylewski, G.S. Chang, A. Moewes, E.Z. Kurmaev, and A. Dinia, *Journal of Physical Chemistry C* 115, 1566-1560 (2011).
13. *Evaluation of Antioxidant Activity and Electronic Structure of Aspirin and Paracetamol*  
W. Motozaki, Y. Nagatani, Y. Kimura, K. Endo, T. Takemura, E. Z. Kurmaev, A. Moewes. *J. Mol. Struct.* 985, 63-69 (2011).
  14. *Charge transfer and band gap of ferrocene intercalated into TiSe<sub>2</sub>*  
A.N. Titov, Y.M. Yarmoshenko, P. Bazylewski, M.V. Yablonskikh, E.Z. Kurmaev, R. Wilks, A. Moewes, V.A. Tsurin, V.V. Fedorenko, O.N. Suvorova, S.Yu. Ketkov, M. Neumann, and G.S. Chang, *Chem. Phys. Lett.* 497, 187-190 (2010).
  15. *RIXS approach to local environment around impurity atoms in diluted magnetic semiconductors and dielectrics*  
G.S. Chang, E.Z. Kurmaev, L.D. Finkelstein, A. Moewes, and A. Dinia, *J. Electr. Spectr. Rel. Phen.* 181, 202-205 (2010) (ICES-11 conference)
  16. *Material Properties and Structural Characterization of M<sub>3</sub>Si<sub>6</sub>O<sub>12</sub>N<sub>2</sub>:Eu<sup>2+</sup> (N=Ba, Sr) – A Comprehensive Study on a promising green phosphor for pc-LEDs*  
C. Braun, S.L. Börger, M. Seibald, G. Miehe, P.J. Schmidt, T.D. Boyko, O. Oeckler, A. Moewes, and W. Schnick, *Chemistry – A European Journal* 16, 9646-9657 (2010).
  17. *Correlation effects in Ni 3d states of LaNiPO*  
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  18. *Band gaps and Electronic structure of alkaline-earth and post-transition metal oxides*  
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  19. *Electronic structure of Mn in (Zn,Mn)O probed by resonant X-ray emission spectroscopy*  
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  20. *Class of tunable wide band gap semiconductors  $\gamma$ -(Ge<sub>x</sub>Si<sub>1-x</sub>)<sub>3</sub>N<sub>4</sub>*  
T.D. Boyko, E. Bailey, A. Moewes, and P. F. McMillan, *Phys. Rev. B* 81, 155207-1-8 (2010).
  21. *Interfacial Properties and Characterization of Sc/Si Multilayers*  
T. Shendruk, A. Moewes, E.Z. Kurmaev, P. Ochin, H. Maury, J.-M. Andre, K. Le Gruen, and P. Jonnard, *Thin Solid Films* 518, 3808-3812 (2010).
  22. *Electronic structure of BiMeO<sub>3</sub> multiferroics and related oxides*  
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  23. *Valence band structure and X-ray spectra of oxygen deficient ferrites SrFeO<sub>x</sub>*  
V.R. Galakhov, E.Z. Kurmaev, M. Neumann, J.A. McLeod, A. Moewes, I.A. Leonidov, V.L. Kozhevnikov, and K. Kuepper, *J. Phys. Chem. C* 110, 5154-5159 (2010)
  24. *Electronic structure of Mn in (Zn,Mn)O probed by resonant X-ray emission spectroscopy*

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25. *Electronic structure and band gap determination of solid solutions of  $\gamma$ -( $\text{Si}_3\text{N}_4$ - $\text{Ge}_3\text{N}_4$ )*  
T.D. Boyko, E. Bailey, A. Moewes, and P. F. McMillan, *Phys. Rev. B* 81, 155207-1-8).
26. *Interfacial Properties and Characterization of Sc/Si Multilayers*  
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27. *Electronic structure of  $\text{BiMeO}_3$  multiferroics and related oxides*  
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29. *Element-specific electronic structure of Mn dopants and ferromagnetism of (Zn,Mn)O thin film*  
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30. *Electronic properties of pyroxenes  $\text{NaCrSi}_2\text{O}_6$  and  $\text{NaFeSi}_2\text{O}_6$*   
S.V. Streltsov, J. McLeod, A. Moewes, G.J. Redhammer, and E.Z. Kurmaev, *Phys. Rev. B* 81, 045118-1-5 (2010).
31. *Metal-insulator transition in  $\text{NiS}_{2-x}\text{Se}_x$*   
J. Kunes, L. Baldassarre, B. Schächner, K. Rabia, C.A. Kuntscher, Dm.M. Korotin, V.I. Anisimov, J.A. McLeod, E.Z. Kurmaev, and A. Moewes, *Phys. Rev. B* 81, 03512201-6 (2010).
32. *Structural models of  $\text{FeSe}_x$*   
E.Z. Kurmaev, J.A. McLeod, N.A. Skorikov, L.D. Finkelstein, A. Moewes, M.A. Korotin, Yu.A. Izyumov, Y.L. Xie, G. Wu, and X.H. Chen, *J. Phys.: Cond. Matt.* 21, 435702-1-6 (2009).
33. *Effect of N, C and B interstitial atoms on local bonding structure in mechanically activated  $\text{TiH}_2/\text{h-BN}$ ,  $\text{TiH}_2/\text{C}$  and  $\text{TiH}_2/\text{B}$  mixtures*  
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34. *Contribution of Fe 3d-states to the Fermi level of  $\text{CaFe}_2\text{As}_2$*   
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35. *Identifying valence structure in  $\text{LiFeAs}$  and  $\text{NaFeAs}$  with core-level spectroscopy*  
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36. *Strength of correlation in pnictides and its assessment by theoretical calculations and spectroscopy experiment*  
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37. *A comparative theoretical and experimental study of the radiation induced decomposition of Glycine*  
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38. *Electronic structure of hydrogenated amorphous  $Si_{1-x}N_x$  films using soft X-ray emission and absorption measurements*  
T. Boyko, S. Kasap, R. Johanson S. Kobayashi, T. Aoki, and A. Moewes, *Physica Status Solidi A* 206, 935-939 (2009).
39. *Ti/C and Ti/B Nanocomposites: Comparison of Sorption-Desorption Properties*  
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41. *Thermodynamic and kinetic factors effecting hydrogen absorption on metal hydrides*  
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42. *Determining the  $sp^2/sp^3$  bonding concentrations of carbon films using X-ray absorption spectroscopy*  
T. Hamilton, R.G. Wilks, M.V. Yablonskikh, Q. Yang, M. Foursa, A. Hirose, V.N. Vasilets, and A. Moewes, *Canadian Journal of Physics* 86, 1401-1407 (2008).
43. *Characterization of oxide layers formed on chemically treated Ti by using soft X-ray absorption measurements*  
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44. *X-ray emission and photoluminescence Spectroscopy of nanostructured Silica with implanted copper ions*  
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45. *Unipolar-to-ambipolar conversion of rubrene thin-film transistors by organosilene self-assembled monolayer*  
J.H. Seo, G.S. Chang, R.G. Wilks, C.N. Whang, K.H. Chae, S.J. Cho, K.-H. Yoo, and A. Moewes, *J. Phys. Chem. B* 112, 16266 (2008).
46. *X-ray spectra and electronic structures of the iron arsenide superconductors  $RFeAsO_{1-x}F_x$  ( $R=La, Sm$ )*  
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47. *Ti/C and Ti/h-BN nanocomposites: comparison of hydrogen sorption/desorption properties*  
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48. *Influence of 2-mercapto-5-nitrobenzimidazole treatment on the electronic characteristics of bottom-contact organic field-effect transistors*  
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49. *RIXS spectra and electronic structure of Sc and Ti dihydrides*  
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50. *Characterization of chemically treated bioactive Ti using soft X-ray fluorescence*  
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51. *Defect-induced Ferromagnetism in Mn-doped Cu<sub>2</sub>O*  
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53. *Oxygen X-ray emission and absorption spectra as a probe of electronic structure in strongly correlated systems*  
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54. *Effect of h-BN additive on hydrogen sorption by Ti under mechanical treatment in H<sub>2</sub>/He flow*  
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55. *Energy Band structure and X-ray Spectra of Phenakite Be<sub>2</sub>SiO<sub>4</sub>*  
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58. *Effects of NH<sub>3</sub>, O<sub>2</sub>, and N<sub>2</sub> co-implantation on Cu out-diffusion and antimicrobial properties of copper plasma-implanted polyethylene*  
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60. *Ti/C and Ti/h-BN nanocomposites: comparison of hydrogen sorption/desorption properties*  
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61. *Local electronic structure of Mn dopants in ZnO probed by resonant inelastic scattering*

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62. *Effect of Co and O defects on the magnetism in Co-doped ZnO: Experiment and Theory*  
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65. *Post-annealing effect on the electronic structure of Mn atoms in Ga<sub>1-x</sub>Mn<sub>x</sub>As probed by resonant inelastic X-ray scattering*  
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