

List of Publications – Matthias Bauer

Book chapters:

1. M. Bauer, H. Bertagnolli: X-ray absorption spectroscopy – the Method and Its Applications, in: R. Schäfer, P.C. Schmidt (Ed.): *Methods in Physical Chemistry*, Wiley-VCH (Weinheim), 2012, p. 231-270.
2. I. Schlipf, M. Bauer, H. Bertagnolli: X-ray absorption spectroscopy – the Method and Its Applications on CSD in: T. Schneller et al. (Ed.): *Chemical solution deposition of functional thin film oxides*, Springer, 2013, p. 181 - 212.
3. M. Bauer, U. Bentrup, J.B. Priebe, A. Brückner: Operando techniques, in: P.C.J. Kamer, D. Vogt, J.W. Thybaut (Hrsg.): *Contemporary Catalysis: Science, Technology and Applications*, Royal Society of Chemistry, 2017, p. 551 – 590.

Peer reviewed journals:

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2. M.P. Feth, C. Bolm, J.P. Hildebrand, M. Köhler, O. Beckmann, M. Bauer, R. Ramamonjisoa, H. Bertagnolli*: Structural Investigation of High-Valent Salen Manganese Complexes by UV/Vis-, Raman, XANES- and EXAFS-Spectroscopy, *Chem. Eur. J.* 2003, 9, No.6, 1348-1359.
3. T. Asthalter*, M. Bauer, U. van Bürck, A.I. Chumakov, I. Sergueev, H. Franz: Confined phonons in glasses - A study by nuclear inelastic absorption and Raman scattering, *Eur. Phys. J.* 2003 E 12, S1, 9.
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6. M. Bauer*, Chr. Gastl, Chr. Köppl, G. Kickelbick, H. Bertagnolli: EXAFS Spectroscopy of the Alkoxide Precursor $Zr(OnBu)_4$ and its Modification in Solution, *Monatsh. Chem. - Chemical Monthly* 2006, 137, 567–581.
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 9. X. Liu, M. Bauer, J. van Slageren, F. Phillipp, H. Bertagnolli, E. Roduner*:
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 10. M. Bauer*, S. Müller, G. Kickelbick, H. Bertagnolli:
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 12. M. Bauer*, H. Bertagnolli:
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38. J. Rabeah, M. Bauer, W. Baumann, A.E.C. McConnell, W.F. Gabrielli, P.B. Webb, D. Selent, A. Brückner*:

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2. M. Bauer, M. Feth, V. Krishnan, H. Bertagnolli:
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3. M. Bauer:
Why chemistry needs EXAFS;
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4. M. Bauer, H. Bertagnolli:
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5. M. Bauer:
XAS as analytical tool in solution chemistry;
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6. M. Bauer:
Basic principles of EXAFS spectroscopy and its application to nanostructured hybrid materials;
One day meeting of inorganic and hybrid nanomaterials (INVITED), Università di Padova, Padua, 24. September 2007.
7. M. Bauer:
The combination of EXAFS, UV-Vis and Raman spectroscopy for investigations of Homogeneous reactions;
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9. M. Bauer:
Homogeneous catalysis and X-ray spectroscopy: Methods, timescales and perspectives;
ESRF Users Meeting, ESRF Grenoble (INVITED), 10. Februar 2010.
10. M. Bauer:
Moderne Methoden der Röntgenspektroskopie - Von der Grundlagenforschung zur mehrdimensionalen Spektroskopie in der Katalyse;
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12. M. Bauer:
Probing catalysts in real time using X-ray spectroscopy;
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13. M. Bauer:
Recent developments in X-ray absorption spectroscopy – From *operando*-spectroscopy to fundamental science;
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14. M. Bauer:
Characterization of catalysts - X-ray absorption spectroscopy and beyond;
Opening Workshop on Helmholtz Research School Energy-Related Catalysis;
Karlsruhe Institute of Technology, Karlsruhe (INVITED), 17. November 2010.
15. M. Bauer:
From fundamental to applied research: X-ray spectroscopy on different time scales,
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16. M. Bauer:

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22. M. Bauer:
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60. L. Burkhardt, M. Bauer:
Exploring the sensitivity of HERFD-XANES and VtC-XES to probe hydride interactions,
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New high resolution hard X-ray spectroscopy as powerful tool for mechanistic investigations of chemical reactions,
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 65. M. Bauer:
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73. M. Bauer:
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74. M. Bauer:
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Ultrafast X-ray spectroscopy to understand the photochemistry of base metal
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Insights into the donor-acceptor properties of base-metal dyads for
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proton reduction,
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Highlights

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Deep insight into catalytic reactions by simultaneous recording of QEXAFS and UV-
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Poster:

1. M. Bauer, I. Schlipf, S. Mangold, H. Bertagnolli :
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Die Röntgenabsorptionsspektroskopie – Neue Aspekte der Datenanalyse am Beispiel von Platin-Nanoclustern und Alkoxid-Precursoren;
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Three-dimensional spectroscopy of homogeneous catalytic reactions
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Modern methods of X-ray spectroscopy – From fundamental research to multi dimensional spectroscopy in catalysis,
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10. M. Bauer:
Moderne Methoden der Röntgenabsorption – Von Attosekundeneffekten zur angewandten Forschung in der Katalyse,
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12. M. Bauer:
When spectroscopy meets theory: X-ray emission and its potential for catalysis research, Bunsentagung für Physikalische Chemie 2012, Leipzig, 17.-19. Juni 2012
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CO oxidation on iron model catalysts: Insights into the mechanism by X-ray absorption AND X-ray emission spectroscopy, International Catalysis Conference 2012, München, 1.-6. Juli 2012.
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