

CURRICULUM VITAE



Tonya Vitova

(middle name: Oleg)

Date of Birth: 15th of December 1978

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Eggenstein-Leopoldshafen, Germany

Professional experience and education

Since July 2011 Karlsruhe Institute of Technology, Institute for Nuclear Waste Disposal, Faculty of Chemistry and Biosciences, Karlsruhe, Germany

- Group leader of the Helmholtz Young Investigator Group (HYIG): “Advanced synchrotron based systematic investigations of actinide and lanthanide systems to understand and predict their reactivity” funded with 1.25 M€, current members: one PhD student and one master student
- 2015 Successful evaluation of the HYIG by external reviewers and CRYSTAL followed by a tenured position at KIT and 250 k€ additional funding. The achievements of the group were highly recognized and designated “Mit sehr gutem Erfolg”
- December 2014 – Juni 2016 & Since January 2018 KIT Associate Fellow
- The HYIG is funded until October 2019

January 2009 – July 2011 Karlsruhe Institute of Technology, Institute for Nuclear Waste Disposal, Karlsruhe, Germany

- Postdoctoral scientist

January 2008-2009 Karlsruhe Institute of Technology, Institute for Nuclear Waste Disposal, Karlsruhe, Germany

- Postdoctoral fellowship granted by ACTINET – A Network of Excellence for Actinide Sciences funded by the European Commission

February 2008 Doctoral degree (Dr. rer. Nat. magna cum laude)

- *Thesis*: “X-ray absorption spectroscopy investigation of structurally modified lithium niobate crystals”

October 2003-2007 Synchrotron Radiation Group, Physics Institute, Bonn, Germany

- PhD project part of the German Research Association (DFG) project “Light Confinement and Control with Structured Dielectrics and Metals”

August 2003 Admission in Bonn International Graduate School

July 2003 Bachelor degree in Engineering Physics

- *Thesis*: “Investigation of defects in plasma sprayed coatings”

1998 – 2002 Physics Engineering Student, University of Sofia, Sofia, Bulgaria

- *Specialization*: Microelectronics and Information technologies

1993 – 1998 Vocational school of Economics, Kyustendil, Bulgaria

Teaching experience

2 SWS SS 2012 & SS 2013 & WS since 2014

KIT, Faculty of Chemistry and Biosciences, Lecture “Instrumental Analytics”

2 SWS WS 2011/2012 & WS 2012/2013

KIT, Faculty of Chemistry and Biosciences, „Seminar zur Vorlesung Allgemeine und Anorganische Chemie (für Studierende des Chemieingenieurwesens)“

1 SWS since 2015

KIT, Faculty of Chemistry and Biosciences, “Wahlfachpraktikum Radiochemie”

0.29 SWS since 2013

KIT, Faculty of Chemistry and Biosciences, “Seminar zum Anorganisch-chemischen Praktikum für Fortgeschrittene“

Tutor at workshops and schools

Theoretical User Lab (ThUL) School in Actinide Chemistry, Karlsruhe, Germany,

September 28 – October 2, 2015

ASEAN Workshop on XANES Simulations and In-situ XAS Experiments (AWXIXE2015),

Synchrotron Light Research Institute (SLRI), Thailand, December 2-4, 2015 and May 17-

19 2017, ***invited***

Summer School 2017 Non-Equilibrium Dynamics of Condensed Matter in the Time

Domain

St. Peter-Ording, Germany, August 7 – 11, 2017, *invited*

European Summer School Radiochemistry and Nuclear Instrumentation

Strasbourg, France, August 21-25, 2017, *invited*

The CAT-ACT beamline for catalyses and radioactive research at ANKA: Opening workshop

KIT, Karlsruhe, September 20-21, 2017

Supervised students and young scientists

Total 24 - practicum: 7, internship: 3, diploma/master: 6, PhD: 4, postdoc: 1, within international collaborations: 3

Practicum

02.2008 – 06.2008 Alla Lebid, Fachhochschule Offenburg

1.03.2010 – 10.04.2010 Hanna Ernst, “Vertiefungsarbeit”, KIT

1.06.2010 - 1.07.2010 Julian Schepperle, “Vertiefungsarbeit”, KIT

04.2012 - 09.2012 Alexander Ernst, “berufliche Ausbildung”, KIT

04.2013 – 01.2014 Valentine Traunfelder, “berufliche Ausbildung”, KIT

06 - 09.2016 Aaron Beck, “Vertiefungsarbeit”, KIT

03 - 05.2017 Jurij Galanzew, “Vertiefungsarbeit”, KIT

Internship

20.05.2011 - 20.08.2011 Heloise Morin, École des Mines de Nantes, France

06.2012 - 09.2012 Bastien Gademann, National Graduate School of Chemistry of Montpellier, France

07.2013 - 09.2013 Stelyana Lechchanska, Technical University of Sofia, Bulgaria

Diploma and Master

02.2013 - 07.2013 Diploma project of Sebastian Bahl, KIT

Thesis: „Charakterisierung von verglasten, hochradioaktiven, Mo/P/Zr/Cs-reichen Simulatabfällen mittels verschiedener spektroskopischer Techniken“, Grade: 1.0 (highest in Germany)

09.2013 – 07.2014 Master project of Veronika Koldeisz, Budapest University of Technology and Economics, Hungary

Thesis: “Characterization of uranium in multi-component borosilicate glass by high-energy resolution X-ray spectroscopy techniques”, Grade: 5.0 (highest in Hungary)

12.2016 - 06.2017 Master project of Aaron Beck, KIT

Thesis: “Immobilization of cesium- and rhenium-rich simulated high level solid waste residues in different host matrices”, grade 1.0

10.2016 - 04.2017 Master project of Alisa Prokopchuk, KIT

Thesis: “Preparation of Rb₂UO₂X₄ compounds (X= F,Cl,Br) and characterization of bonding differences by spectroscopy and quantum chemical methods“, grade: 1.0

09.2017 – 03.2018 Master project of Jurij Galanzew, KIT

Thesis: “Electronic structure studies of Th systems by high energy resolution X-ray spectroscopy and computational methods“, currently under review

Since 1.03.2018 Master project of Bianca Schacherl, KIT

Thesis: “Speciation of Np in illite by X-ray spectroscopy methods”

PhD

2011-2015 Tim Prüßmann, KIT

Thesis: “Characterisation of bonding differences by high-resolution X-ray emission and inelastic X-ray scattering techniques”, grade 1.0

2012 -2016 Ivan Pidchenko, KIT

Thesis: “Characterisation of actinide species in systems relevant for safety assessment of a nuclear waste repository by high-resolution X-ray emission/absorption spectroscopy”, grade 1.0

2013 -2017 Sebastian Bahl, KIT

Thesis: “Characterisation of nuclear waste glass forms by advanced spectroscopy and microscopy techniques”, grade 1.0

Since 2017 Aaron Beck, KIT

Thesis: „Hochaufgelöste Röntgenabsorptionsspektroskopie (HR-XAS) zur Untersuchung der Freisetzung und Löslichkeit von Radionuklid-Spezies aus hochradioaktiven nuklearen Abfällen in aquatischen Medien“, grade 1.0

Postdoc

April 2016 – November 2017 Ivan Pidchenko, INE, KIT

Within international collaborations

1.10.2009 – 1.01.2010 Scholarship of Galina Sukharina, Sothern Federal University, Rostov-on-Don, Russia, funded by German Academic Exchange Service (DAAD)

4.03.2013 - 15.03.2013 Short term scientific mission of Aurora Walesh, School of Chemistry, Trinity College, funded by COST: European cooperation in science and technology

20.02.2014 – 20.03.2014 Scholarship of Yulia Podkovyrina, Sothern Federal University, Rostov-on-Don, Russia, funded by German Russian Interdisciplinary Science Center (G-RISC)

1.10.2014 – 31.03.2015 Scholarship of Yulia Podkovyrina, Sothern Federal University, Rostov-on-Don, Russia, funded by German Academic Exchange Service (DAAD)

International experience

05.2001 - 09.2001, 05.2002 - 09.2002 Old Saybrook, Connecticut, USA
Work and travel student program

1.05.2007 – 1.06.2007 & 1.04.2008 – 1.05.2008 Development of an experimental set-up for X-ray emission spectroscopy at the Center of Advanced Microstructure and Devices, Baton Rouge, USA

Travel grant as part of the Federal Ministry of Education and Research (BMBF) joint research project: “Grundlegende Untersuchungen zur Entwicklung und Optimierung von Prozessen zur Abtrennung langlebiger Radionuklide (Partitioning)“:

22.05.2012 - 31.05.2012 European Synchrotron Radiation Facility (ESRF), Grenoble, France collaboration with Dr. Pieter Glatzel and Dr. Kristina Kvashnina

8.06.2012 - 13.06.2012, 18.06.2012 - 22.06.2012 University of Washington, Seattle, USA, collaboration with Prof. John Rehr

14.06.2012 - 17.06.2012 Advance Light Source (ALS), Lawrence Berkeley National Laboratory, Berkeley, USA, collaboration with Dr. Lothar Weinhardt

Awards and fellowships

2008-2009 One year postdoctoral fellowship granted by ACTINET - A Network of Excellence for Actinide Sciences funded by European Union

December 2011 The first Women in Nuclear-Germany Award

2015 The review of the HYIG was completed in 2015 by an independent external review committee and the KIT Council for Research and Promotion of Young Scientist (KIT-CRYS). The achievements of the group were highly recognized and designated “mit sehr gutem Erfolg”.

Third party funding

07.2011 - 10.2016 Helmholtz Young Investigators Group funded with **1.25 M€**.

06.2012 – 2014 “Electronic, thermal, and dynamic properties of epitaxial lanthanide (Ln) nanostructures from in-situ temperature-dependent and high resolution X-ray absorption/emission spectroscopy” project funded with **200 k€** by the Helmholtz Association of German Research Centers (HGF) in collaboration with HYIG S. Stankov, KIT.

2016 – 31.10. 2019 **250 k€** Supplementary Helmholtz Young Investigator Group grant

2016 The PhD student Sebastian Bahl member of the HYIG has obtained Karlsruhe House of Young Scientist (KHYS) scholarship (travel and accommodation support) to work three months (29.02-23.05.2016) in the Department of Chemistry and Materials Science, Tokyo Institute of Technology (TIT), Japan in collaboration with Prof. T. Yano on

a project with title: “Advanced spectroscopic and microscopic structural investigations of nuclear waste glass forms”.

Transnational Access to Large Infrastructure for a Safe Management of Actinides (TALISMAN) EURATOM FP7 funded projects covering laboratory and travel costs:

2013 TALI_C05-21 “High energy resolution X-ray absorption near

edge structure (HR-XANES) and Raman investigations of high actinide loaded boro- and aluminosilicate glasses” in collaboration with S. Peugnet, CEA, Marcoule

2014 TALI-C03-01 “Advanced spectroscopic and microscopic investigations of Pu-doped borosilicate glass” in collaboration with J. Somers, JRC-Karlsruhe (European Commission)

Advanced training

14.09.2011 - 15.09.2011 Leading teams and working groups, YIN, KIT

11.11.2011 Self-management and personal working techniques, YIN, KIT

20.02.2011 - 22.02.2012 & 22.10.2012 - 24.10.2012 Effective leadership, Academy for executives, HGF

6.07.2013 Rhetorical basics in teaching, PEW, KIT

26.03.2015 Grundlagen des Lehrens und Lernens - Kompaktkurs Hochschuldidaktik; PEBA, KIT

Commissions of trust

Since 2008 Frequent reviewer for journals of the American Chemical and Physical Societies, and Royal Society of Chemistry as well as for journals publishing topics in synchrotron radiation instrumentation and nuclear materials.

Since 2010 Reviewer of long-term project applications for the Stanford Synchrotron Radiation Light Source, USA

Since 2016 Member of the Editorial Board of *Scientific Reports*

2018 Invitation to act as an external expert in the selection committee of the Actinide User Laboratory (ActUsLab) - The European Commission's science and knowledge service

Talks at conferences, workshops and seminars [t]

Total: 31, Invited: 21

[t1] High resolution X-ray emission spectroscopy (HRXES): an advanced tool for actinide research

ACTINIDES 09, San Francisco, CA, USA, July 12 - 17, 2009

[t2] High resolution X-ray emission spectroscopy (HRXES): an advanced tool for actinide research

GDCh Wissenschaftsforum Chemie 2009, Frankfurt, August 30th - September 2th, 2009

[t3] High resolution X-ray emission spectroscopy: an advanced tool for actinide research

14th International Conference on X-ray Absorption Fine Structure (XAFS14), Camerino, Italy, July 26 - 31, 2009

[t4] The potential of high-resolution X-ray absorption/emission spectroscopy for advanced studies of nano-materials

Nanodesign: Physics, Chemistry, Computer Modeling

German-Russian Interdisciplinary Workshop, Rostov-on-Don, Russia, December 16 - 17, 2010, **invited talk**

[t5] Advanced X-ray absorption/emission spectroscopic tool for actinide speciation

Plutonium Futures – The Science 2010, Keystone, Colorado, USA, September 19 - 23, 2010

[t6] The potential of high-resolution X-ray emission spectroscopy and non-resonant inelastic X-ray scattering for advanced studies of actinide-materials

AnXAS 2011: 6th Workshop on Speciation Techniques and Facilities for Radioactive Materials at Synchrotron Light Sources and other Quantum Beam Sources, Harima Science Garden City, Hyogo, Japan, March 2 - 4, 2011

[t7] High-resolution X-ray absorption spectroscopy as an advanced tool for structural studies of lanthanide complexes

XXIV. Tage der Seltenen Erden (Terrae Rarae 2011), Karlsruhe, October 12 – 14, 2011

[t8] Actinide speciation with high-resolution X-ray absorption and inelastic X-ray scattering spectroscopy

GDCh Wissenschaftsforum Chemie 2011, Bremen, September 04 - 07, 2011

[t9] Actinide speciation with high-resolution X-ray absorption and inelastic X-ray scattering Seminar at Synchrotron SOLEIL, Saint-Aubin. France, November 22, 2011, **invited talk**

[t10] Actinide speciation with X-ray absorption spectroscopy

ACTINET ThUL Spring school, Karlsruhe, April 26 – 30, 2012, **invited talk**

[t11] The potential of high-resolution X-ray emission and resonant inelastic X-ray scattering techniques for speciation studies of actinide materials

EUFEN meeting, Tarragona, Spain, June 02 – 04, 2012

[t12] Actinide speciation with high-energy resolution X-ray absorption spectroscopy and inelastic X-ray scattering

XAFS-XV Conference, Beijing, PR China, July 22-28, 2012

[t13] Actinide speciation with high-energy resolution X-ray absorption spectroscopy and inelastic X-ray scattering

ATAS workshop, Dresden, November 5-11, 2012

[t14] Structural investigations of actinides with advanced X-ray spectroscopy techniques ACTINIDES 2013 Conference, Karlsruhe, July 21-26, 2013, **invited talk**

[t15] High energy resolution x-ray absorption spectroscopy and inelastic x-ray scattering investigations of actinide materials

V-th National Crystallography Symposium, Bulgaria Sofia, September 25–27, 2014. **invited talk**

[t16] Structural investigations of actinide systems by high energy resolution X-ray absorption spectroscopy

LCLS/SSRL Annual Users' Meeting, joint SSRL/ALS Workshop Advances in Actinide

Science from Synchrotron Spectroscopy, SLAC National Accelerator Laboratory, Menlo Park, California, USA, October 7-10, 2014, **invited talk**

[t17] High energy resolution x-ray absorption spectroscopy and inelastic x-ray scattering investigations of actinide materials

The 16th International Nanoscience&Nanotechnology conference, NANO'2014, Technical University Bulgaria, Sofia, November 6-8, 2014, **invited talk**

[t18] Structural investigations of actinide systems by high energy resolution X-ray absorption spectroscopy

European Synchrotron Radiation Facility (ESRF) spectroscopy meeting, Grenoble, France, November 14, 2014, **invited talk**

[t19] Structural investigations of actinides and lanthanides by high energy resolution X-ray absorption/emission spectroscopy

Joint ITU-INE Workshop: Synchrotron-based spectroscopy for actinide science, Institute for Transuranium Elements (ITU), Karlsruhe, Germany, December 5, 2014, **invited talk**

[t20] High energy resolution XANES as a tool for electronic and geometric structural investigations of actinide materials

XAFS16, 16th International Conference on X-ray absorption spectroscopy, Karlsruhe, Germany, August 23 – 28, 2015 **invited talk**

[t21] Structural properties of actinide materials revealed by high energy resolution X-ray absorption spectroscopy

National Conference on Environmental Radiochemistry, Chengdu, China, August 31 – September 6, 2015, **invited talk**

[t22] Structural properties of nanomaterials studied by high energy resolution X-ray emission and absorption spectroscopy techniques

International Joint School on Smart Nanomaterials and X-ray Optics 2015. Modeling, Synthesis and Diagnostics, Rostov-on-Don, Russia, September 27-30, 2015, **invited talk**

[t23] High resolution X-ray absorption spectroscopy as an advanced tool for structural investigations of actinides

62nd AVS International Symposium, 6th Actinides and Rare Earths Focus Session, San Jose, CA, USA, October 18-23, 2015, **invited talk**

[t24] High energy resolution X-ray absorption spectroscopy: a tool for structural studies of actinide materials.

4rd ITU – INE Research Fellow Day, Karlsruhe, October 14, 2015 **invited talk**

[t25] Structural properties of actinide materials revealed by high energy resolution X-ray absorption spectroscopy

4th annual Carnival conference session, Universität Köln, 3.02.2016 **invited talk**

[t26] Structural investigations of actinides with high energy resolution X-ray absorption spectroscopy

Helmholtz-Zentrum Dresden-Rossendorf, Institute for Resource Ecology, 15.06.2016. **invited talk**

[t27] Structural properties of plutonium systems revealed by high resolution XANES and RIXS techniques

Plutonium Futures — The Science 2016, Karlsruhe, 20.09.2016. **invited talk**

[t28] Insights into the actinide speciation and electronic structure using An M_{4,5} HR-

XANES and 3d4f RIXS

AnXAS 2017, University of Oxford, April 11 – April 13, 2017 **invited talk**

[t29] Speciation and electronic structure studies of actinides using An M_{4,5} HR-XANES and 3d4f RIXS

Seminar at the Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland, December 5th, 2017 **invited talk**

[t30] Speciation and electronic structure studies of actinides using An M_{4,5} HR-XANES and 3d4f RIXS

Seminar at the University of Stuttgart, Germany, 22th of January 2018 **invited talk**

[t31] July 22-27 2018: **Invitation** to give a Keynote Lecture at XAFS17, the 17th International Conference on X-ray Absorption Spectroscopy with more than 500 participants, Krakow, Poland

Peer-reviewed articles

Total peer reviewed articles 51, h-index 12, 538 total number of citations (Google scholar)

The five most important articles

- [1] Vitova, T., Kvashnina, K.O., Nocton, G., Sukharina, G., Denecke, M.A., Butorin, S.M., Mazzanti, M., Caciuffo, R., Soldatov, A., Behrends, T., Geckeis, H.
High energy resolution x-ray absorption spectroscopy study of uranium in varying valence states
(2010) *Physical Review B - Condensed Matter and Materials Physics*, 82 (23), 235118
- [2] Vitova, T., Green, J.C., Denning, R.G., Löble, M., Kvashnina, K., Kas, J.J., Jorissen, K., Rehr, J.J., Malcherek, T., Denecke, M.
Polarization dependent high energy resolution X-ray absorption study of dicesium uranyl tetrachloride.
(2015) *Inorg. Chem.*, 54, 174–182
- [3] Pidchenko, I.; Kvashnina, K. O.; Yokosawa, T.; Finck, N.; Bahl, S.; Schild, D.; Polly, R.; Bohnert, E.; Rossberg, A.; Gottlicher, J.; Dardenne, K.; Rothe, J.; Schafer, T.; Geckeis, H.; Vitova, T.,
Uranium Redox Transformations after U(VI) Coprecipitation with Magnetite Nanoparticles.
(2017) *Environ Sci Technol*, 51 (4), 2217-2225
- [4] Bahl, S.; Peugeot, S.; Pidchenko, I.; Pruessmann, T.; Rothe, J.; Dardenne, K.; Delrieu, J.; Fellhauer, D.; Jégou, C.; Geckeis, H.; Vitova, T. Pu Coexists in Three Oxidation States in a Borosilicate Glass: Implications for Pu Solubility.
(2017) *Inorg. Chem.*, 56, 13982–13990
- [5] Vitova T.; Pidchenko I.; Fellhauer, D.; Bagus, P. S.; Joly, Y.; Prüßmann, T.; Bahl, S.; Gonzalez-Robles, E.; Rothe, J.; Altmaier, M.; Denecke, M. A.; Geckeis H.
The role of the 5f valence orbitals of early actinides in chemical bonding
(2017) *Nature Communications*, 8, 16053

2018: **Invitation** by Prof. Polly Arnold and Prof. Sarah Stoll to contribute to the themed issue of The Royal Society of Chemistry journal *Chemical Communications* entitled “New molecules and materials from the f-block”.

Complete list of peer-reviewed articles [p]

[p1] Vitova, T., Zamani – Meymian, M. – R., Maier, K., Peithmann, K., Hormes, J.

X-ray Absorption Spectroscopy Investigation of Lithium Niobate Irradiated with helium ions. ($^3\text{He}:\text{LiNbO}_3$)

(2007) *Proceedings of the 4th Workshop on Speciation, Techniques and Facilities for Radioactive Materials at Synchrotron Light Source, special issue of the "Nuclear Energy Agency (OECD-NEA) News"*

[p2] Brendebach, B., Dardenne, K., Denecke, M. A., Rothe, J., Vitova, T.

New developments at the INE-Beamline for actinide research at ANKA

(2007) *Nucl. Instr. and Method. in Phys. Res. A* , 582, 80

[p3] Vitova, T., Hormes, J., Peithmann, K., Woike, T.

X-ray absorption spectroscopy study of valence and site occupation of copper in LiNbO_3 : Cu

(2008) *Physical Review B - Condensed Matter and Materials Physics*, 77 (14), 144103

[p4] Huang, Z., Bensch, W., Sigle, W., van Aken, P. A., Kienle, L., Vitova, T., Modrow, H., Ressler, T.

The modification of MoO_3 nanoparticles supported on mesoporous SBA-15: characterisation using X-ray scattering, N_2 physisorption, transmission electron microscopy, high-angle annular darkfield technique and XAFS spectroscopy

(2008) *J. Mater. Sci.*, 43, 244-253

[p5] Vitova, T., Lebid, A., Liu, D., Dardenne, K., Brendebach, B., Rothe, J., Hormes, J., Denecke, M. A.

The high resolution X-ray fluorescence spectrometer (HRXF): an advance tool for actinide research

(2009) *Proceedings of the 5th Workshop on Speciation, Techniques and Facilities for Radioactive Materials at Synchrotron Light Source, special issue of the "Nuclear Energy Agency (OECD-NEA) News"*

[p6] Brendebach, B., Dardenne, K., Denecke, M. A., Liu, X., Rothe, J., Vitova, T.

The INE-Beamline for actinide research at ANKA

(2009) *Proceedings of the 5th Workshop on Speciation, Techniques and Facilities for Radioactive Materials at Synchrotron Light Source, special issue of the "Nuclear Energy Agency (OECD-NEA) News"*

[p7] Michel, P., Denecke, M. A., Schäfer, T., Brendebach, B., Dardenne, K., Rothe, J., Vitova, T., Huber, F., Rickers, K., Elie, M., Buckau, G.

A combined μ -XAS, STXM and μ -FTIR investigation on the uranium speciation of samples from Autunian shales of the Permian Lodeve Basin (France)

(2009) *Proceedings of the 5th Workshop on Speciation, Techniques and Facilities for Radioactive Materials at Synchrotron Light Source, special issue of the "Nuclear Energy Agency (OECD-NEA) News"*

[p8] Vitova, T., Zamani-Meymian, M.R., Peithmann, K., Maier, K., Hormes, J.

Atomic displacement and disorder in LiNbO_3 single crystal caused by high-energy ^3He ion irradiation: An x-ray absorption spectroscopy study

(2009) *Journal of Physics Condensed Matter*, 21 (49), 495401

[p9] Dardenne, K., Brendebach, B., Denecke, M.A., Liu, X., Rothe, J., Vitova, T.

New developments at the INE-Beamline for actinide research at ANKA

(2009) *Journal of Physics: Conference Series*, 190, 012037

[p10] Denecke, M.A., Michel, P., Schäfer, T., Huber, F., Rickers, K., Rothe, J., Dardenne, K., Brendebach, B., Vitova, T., Elie, M.

Spatially resolved XRF, XAFS, XRD, STXM and IR investigation of a natural U-rich clay

(2009) *Journal of Physics: Conference Series*, 190, 012187

[p11] Vitova, T., Hormes, J., Falk, M., Buse, K.
Site-selective investigation of site symmetry and site occupation of iron in Fe-doped lithium niobate crystals
(2009) *Journal of Applied Physics*, 105 (1), 013524

[p12] Vitova, T., Kvashnina, K.O., Nocton, G., Sukharina, G., Denecke, M.A., Butorin, S.M., Mazzanti, M., Caciuffo, R., Soldatov, A., Behrends, T., Geckeis, H.
High energy resolution x-ray absorption spectroscopy study of uranium in varying valence states
(2010) *Physical Review B - Condensed Matter and Materials Physics*, 82 (23), 235118

[p13] Caciuffo, R., Van Der Laan, G., Simonelli, L., Vitova, T., Mazzoli, C., Denecke, M.A., Lander, G.H.
Uranium 5d-5f electric-multipole transitions probed by nonresonant inelastic x-ray scattering
(2010) *Physical Review B - Condensed Matter and Materials Physics*, 81 (19), 195104

[p14] Vitova, T., Brendebach, B., Dardenne, K., Denecke, M. A., Lebid, A., Löble, M., Rothe, J., Batuk, O. N., Hormes, J., Liu, D., Breher, F., Geckeis, H.
High resolution x-ray emission spectroscopy: an advanced tool for actinide research
(2010) *IOP Conf. Ser.: Mater. Sci. Eng.*, (9), 012053

[p15] Denecke, M. A., De Nolf, W., Rack, A., Tucoulou, T., Vitova T., Falkenberg, G., Abolhassani, S., Cloetens, P., Kienzler, B.
Speciation of actinides in granite subjected to tracer studies, in s. Kalmykov, m. A. Denecke (eds.)
(2011) *Actinide Nanoparticle Research*, Springer Verlag Heidelberg, 413 - 436

[p16] Denecke, M.A., Borchert, M., Denning, R.G., De Nolf, W., Falkenberg, G., Hoñig, S., Klinkenberg, M., Kvashnina, K., Neumeier, S., Patommel, J., Petersmann, T., Pruessmann, T., Ritter, S., Schroer, C.G., Stephan, S., Villanova, J., Vitova, T., Wellenreuther, G.
Highly resolved synchrotron-based investigations related to nuclear waste disposal
(2012) *Materials Research Society Symposium Proceedings*, 1444, 269-280

[p17] Carvajal-Nunez, U., Prieur, D., Vitova, T., Somers, J.
Charge distribution and local structure of americium-bearing thorium oxide solid solutions
(2012) *Inorganic Chemistry*, 51 (21), 11762-11768

[p18] Huber, F., Schild, D., Vitova, T., Rothe, J., Kirsch, R., Schäfer, T.
U(VI) removal kinetics in presence of synthetic magnetite nanoparticles
(2012) *Geochimica et Cosmochimica Acta*, 96, 154-173

[p19] Rothe, J., Butorin, S., Dardenne, K., Denecke, M.A., Kienzler, B., Löble, M., Metz, V., Seibert, A., Steppert, M., Vitova, T., Walther, C., Geckeis, H.
The INE-Beamline for actinide science at ANKA
(2012) *Review of Scientific Instruments*, 83 (4), 043105

[p20] Vespa, M., Rini, M., Spino, J., Vitova, T., Somers, J.
Fabrication and characterization of (U, Am)O_{2-x} transmutation targets
(2012) *Journal of Nuclear Materials*, 421 (1-3), 80-88

[p21] Carvajal Nuñez, U., Martel, L., Prieur, D., Lopez Honorato, E., Eloirdi, R., Farnan, I., Vitova, T., Somers, J.

Coupling XRD, EXAFS, and ^{13}C NMR to study the effect of the carbon stoichiometry on the local structure of $\text{UC}_{1\pm x}$

(2013) *Inorganic Chemistry*, 52 (19), 11669-11676

[p22] Löble, M.W., Oña-Burgos, P., Fernández, I., Apostolidis, C., Morgenstern, A., Walter, O., Bruchertseifer, F., Kaden, P., Vitova, T., Rothe, J., Dardenne, K., Banik, N.L., Geist, A., Denecke, M.A., Breher, F.

Exploring the solution behavior of f-element coordination compounds: A case study on some trivalent rare earth and plutonium complexes

(2013) *Chemical Science*, 4 (9), 3717-3724

[p23] Rothe, J., Brendebach, B., Bube, C., Dardenne, K., Denecke, M.A., Kienzler, B., Metz, V., Prüßmann, T., Rickers-Appel, K., Schild, D., Soballa, E., Vitova, T.
Characterization of U(VI)-phases in corroded cement products by micro(μ)-spectroscopic methods

(2013) *Journal of Physics: Conference Series*, 430 (1), 012114

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