Conference Contributions

[1] C Albers, G Spiekermann, R Sakrowski, C Sternemann, L Bayarjargal, M Tolan, and M Wilke. Decomposition of siderite and formation of tetracarbonates at conditions of the lower mantle, 2. September 2019. Poster Mo-P-36 presented at 57th European High Pressure Research Group International Meeting on High Pressure Science and Technology (EHPRG) in Prague, Czech Republic.

[2] C Albers, G Spiekermann, R Sakrowski, C Sternemann, M Tolan, and M Wilke. A portable setup to establish extreme conditions for the study of tetracarbonates, 9.–13. September 2019. Talk given at the 5^{th} International Young Earth Scientists Network Congress -Rocking Earth's Future- YES Congress at Freie Universität in Berlin, Germany.

[3] C Albers, G Spiekermann, R Sakrowski, C Sternemann, M Wilke, and M Tolan. Formation and electronic structure of tetracarbonates under extreme conditions, 31.March - 5. April 2019. Poster at DPG-Tagung, Rostock, Germany.

[4] C Albers, G Spiekermann, R Sakrowski, M Wilke, L Bayarjargal, C Schmidt, H Gretason, M Sundermann, S Chariton, M Tolan, and C Sternemann. Formation and electronic structure of tetracarbonates under extreme conditions, 3. September 2019. Poster presented at 57th European High Pressure Research Group International Meeting on High Pressure Science and Technology (EHPRG) in Prague, Czech Republic.

[5] C Albers, G Spiekermann, R Sakrowski, M Wilke, L Bayarjargal, C Schmidt, L Libon, J Latarius, H Gretarsson, M Sundermann, S Chariton, M Tolan, and C Sternemann. Formation and electronic structure of tetracarbonates under extreme conditions, 29. - 31. January 2020. Poster at European XFEL Users' Meeting 2020/ DESY Photon Science Users' Meeting 2020, Hamburg, Germany.

[6] C Albers, G Spiekermann, R Sakrowski, M Wilke, L Bayarjargal, C Schmidt, L Libon, J Latarius, H Gretarsson, M Sundermann, S Chariton, M Tolan, and C Sternemann. Formation and electronic structure of tetracarbonates under extreme conditions, 29.–31. January 2020. Poster presented at DESY Photon Science Users' Meeting 2020/ European XFEL Users'Meeting 2020, Hamburg/Germany.

[7] C Albers, G Spiekermann, L Libon, R Sakrowski, M Wilke, J Kaa, N Thiering, H Gretarsson, M Sundermann, M Tolan, and C Sternemann. X-ray emission scanning imaging setup to study electronic structure of iron bearing compounds in situ at conditions of the earth's mantle, 30. August - 03. September 2021. Poster at DPG-Tagung, online.

[8] C Albers, G Spiekermann, L Libon, R Sakrowski, M Wilke, J Kaa, N Thiering, H Gretarsson, M Sundermann, M Tolan, and C Sternemann. X-ray emission scanning imaging setup to study electronic structure of iron bearing compounds in situ

at conditions of the earth's mantle, 11.-13. Juli 2021. online Poster at XAFS 2021, Sydney, Australia.

[9] C Albers, R Sakrowski, G Spiekermann, L Libon, M Wilke, N Thiering, H Gretarsson, M Sundermann, J Kaa, M Tolan, and C Sternemann. Setup to study electronic structure of iron compounds in situ at conditions of the earth's mantle, 7.-9. February 2022. Poster at European XFEL Users' Meeting 2022 online.

[10] C Albers, R Sakrowski, G Spiekermann, L Libon, M Wilke, N Thiering, H Gretarsson, M Sundermann, J Kaa, M Tolan, and C Sternemann. X-ray emission scanning imaging setup to study electronic structure of iron-bearing compounds in situ at conditions of the earth's mantle, 23. - 27. May 2022. Talk at European Geosciences Union (EGU) General Assembly 2022, online.

[11] C Albers, R Sakrowski, G Spiekermann, L Libon, M Wilke, N Thiering, H Gretarsson, M Sundermann, J Kaa, M Tolan, and C Sternemann. X-ray emission scanning imaging setup to study electronic structure of iron-bearing compounds in situ at conditions of the earth's mantle, 28. March - 1. April 2022. Talk at International Conference on Synchrotron Radiation Instrumentation (SRI) 2021, online.

[12] K Appel. The High Energy Density science instrument at European XFEL: a new user facility for high-pressure research, 04.–09. September 2016. Invited Talk given at the 54$^{\text{th}}$ European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[13] K Appel. The hed science instrument at european xfel: present status and perspectives for dynamic compression experiments, 26. January 2021. Talk at GSI Science Seminar.

[14] K Appel. The hed instrument at the european xfel - status in 2020, 31. January 2021. Talk at European XFEL user meeting, Schenefeld, Germany.

[15] G Aprilis, C Strohm, I Kupenko, C McCammon, D Vasiukov, S Linhardt, L Dubrovinsky, and N Dubrovinskaia. Double-sided pulsed laser heating system for time resolved geoscience and materials science applications, 04.–09. September 2016. Talk O18.4 given at the 54$^{\text{th}}$ European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[16] L Bayarjargal. Phase stability of carbonates at high p,t conditions, 12. November 2019. Talk given at colloquium of institute of geology and mineralogy at University of Cologne.

[17] L Bayarjargal, CF Fruhner, N Schrodt, and B Winkler. High pressure lattice dynamics of aragonite and $CaCO_3$–VII up to 45 GPa, 05.–08. March 2018. Poster P026 presented at the 26$^{\text{th}}$ Annual Meeting of the German Crystallographic Society (DGK), Essen.

[18] N Biedermann. Stability of carbonates at lower mantle conditions – a possible candidate for carbon storage in the Earth's deep interior, 28. August – 02. September 2017. Lightning Talk given at the Third DCO Early Career Scientist Workshop, Nicolosi, Italy.

[19] N Biedermann, S Speziale, HJ Reichmann, M Koch-Müller, and G Heide. High-pressure phase transition and single-crystal elasticity of $SrCO_3$ by Raman spectroscopy and Brillouin spectroscopy, 14.–17. March 2016. Lightning Talk MS04-04 given and Poster P070 presented at the 24^{th} Annual Meeting of the German Crystallographic Society (DGK), Stuttgart.

[20] N Biedermann, S Speziale, B Winkler, HJ Reichmann, and M Koch-Müller. Single-crystal elasticity of $SrCO_3$ by Brillouin spectroscopy and density functional theory calculations, 04.–09. September 2016. Poster P19.3 presented at the 54^{th} European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[21] N Biedermann, S Speziale, B Winkler, HJ Reichmann, M Koch-Müller, and G Heide. High-pressure phase behavior of $SrCO_3$ – an experimental and computational Raman scattering study, 04.–09. September 2016. Poster P19.4 presented at the 54^{th} European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[22] N Biedermann, M Wilke, and K Appel. Trace element distribution between Earth mantle phases and carbonates at HP/HT, 27. May – 05. June 2016. Poster 5 presented at the International School of Crystallography (ISCoC), Erice, Italy.

[23] N Biedermann, K Appel, G Spiekermann, W Morgenroth, A Pakhomova, M Bykov, R Wirth, and M Wilke. Trace-element fractionation processes between carbonates and silicates at mantle conditions, 28. August – 02. September 2017. Poster presented at the Third DCO Early Career Scientist Workshop, Nicolosi, Italy.

[24] N Biedermann, K Appel, G Spiekermann, W Morgenroth, A Pakhomova, M Bykov, R Wirth, and M Wilke. Carbonate-silicate reactions under mantle conditions. The role of carbonates as possible trace-element carriers in the deep Earth, 24.–29. September 2017. Talk given at the GeoBremen, Bremen.

[25] N Biedermann, K Appel, G Spiekermann, W Morgenroth, A Pakhomova, and M Wilke. In-situ stability of carbonates in presence of mantle phases, 21.–28. August 2017. Abstract submitted for the 24^{th} Congress and General Assembly of the International Union of Crystallography (IUCr), Hyderabad, India.

[26] N Biedermann, K Appel, G Spiekermann, W Morgenroth, A Pakhomova, R Wirth, and M Wilke. Trace-element fractionation processes between carbonates and silicates at mantle conditions, 13.–18. August 2017. Poster presented at the Goldschmidt Conference, Paris, France.

[27] N Biedermann, K Appel, L Bayarjargal, C-J Fruhner, G Spiekermann, W Morgenroth, A Pakhomova, G Gabarino, R Wirth, and M Wilke. Reactions between caco$_3$ and bridgmanite at mantle conditions and the role of carbonates as possible trace element carriers into the earth's deep interior, 2. September 2019. Poster Mo-P-30 presented at 57th European High Pressure Research Group International Meeting on High Pressure Science and Technology (EHPRG) in Prague, Czech Republic.

[28] J Binck, S Chariton, L Bayarjargal, L Dubrovinsky, and B Winkler. A novel stability field of a high pressure high temperaturepolymorph of dolomite, 26.-28. March 2019. Poster P019 during session extreme/non-ambient conditions presented at DGK Leipzig, Germany.

[29] J Binck, S Chariton, M Stękiel, L Bayarjargal, W Morgenroth, L Dubrovinsky, and B Winkler. High pressure, high temperature phase stabilities of iron-poor dolomite and a new structure of dolomite V, 9.–13. September 2019. Talk given at the 5$^{\text{th}}$ International Young Earth Scientists Network Congress -Rocking Earth's Future-YES Congress at Freie Universität in Berlin, Germany.

[30] J Binck, L Bayarjargal, S Lobanov, W Morgenroth, R Luchitskaia, C J Pickard, V Milman, K Refson, D Jochym, P Byrne, and B Winkler. Phase stabilities of $MgCO_3$ and $MgCO_3$-II studied by Raman spectroscopy, X-ray diffraction, and DFT calculations, 26. February 2020. Talk S13-3 given at the Joint Polish-German-Crystallographic Meeting 2020 (DGK), Wroclaw/ Poland.

[31] J Binck, L Bayarjargal, S Lobanov, W Morgenroth, R Luchitskaia, C J Pickard, V Milman, K Refson, D Jochym, P Byrne, and B Winkler. Phase stabilities of $MgCO_3$ polymorphs studied by Raman spectroscopy and X-ray diffraction and DFT, 29.–31. January 2020. Poster presented at DESY Photon Science Users' Meeting 2020/ European XFEL Users'Meeting 2020, Hamburg/Germany.

[32] V Cerantola, E Bykova, M Merlini, I Kupenko, L Ismailova, C McCammon, IY Kantor, M Bykov, S Petitgirard, AI Chumakov, R Rüffer, and L Dubrovinski. From the crust to the core, $FeCO_3$ stability field in the deep Earth, 04.–09. September 2016. Poster P19.1 presented at the 54$^{\text{th}}$ European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[33] S Chariton. Looking for carbonates in the deep earth- an experimental approach at extreme conditions, 28. August–02. September 2017. Lightning Talk given at the Third DCO Early Career Scientist Workshop, Nicolosi, Italy.

[34] S Chariton. Single Crystal X-ray Diffraction and Nuclear Inelastic Scattering at Extreme Conditions: The Case of Carbonates, 05.–07. February 2018. Talk given at the ESRF User Meeting, Grenoble, France.

[35] S Chariton and I LKoemets. The elastic properties and crystal chemistry of carbonates in the deep earth, 09.-13. September 2019. Talk given at the 5$^{\text{th}}$ International

Young Earth Scientists Network Congress -Rocking Earth's Future- YES Congress at Freie Universität in Berlin, Germany.

[36] S Chariton, E Bykova, V Cerantola, M Bykov, L Ismailova, I Kupenko, G Aprilis, C McCammon, and L Dubrovinsky. The behavior of rhodochrosite ($MnCO_3$) at extreme conditions, 11.–15. September 2016. Poster presented at the 2nd European Mineralogical Conference (EMC), Rimini, Italy.

[37] S Chariton, V Cerantola, E Bykova, M Bykov, L Ismailova, I Kupenko, G Aprilis, C McCammon, and L Dubrovinsky. Transition metal carbonates ($MnCO_3$, $CoCO_3$) at extreme conditions, 04.–09. September 2016. Talk O19.1 given at the 54th European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[38] S Chariton, C McCammon, V Cerantola, I Kupenko, D Casuikov, G Aprilis, AI Chumakov, and L Dubrovinsky. Elastic wave velocities of Fe-bearing carbonates using Nuclear Inelastic Scattering, 27.–29. April 2016. Poster 22 presented at the BGI Academy Commission Meeting, Bayreuth.

[39] S Chariton, E Bykova, M Bykov, V Cerantola, I Kupenko, G Aprilis, C McCammon, and L Dubrovinsky. The crystal chemistry of transition metal carbonates, 04.–05. May 2017. Poster 21 presented at the BGI Academy Commission Meeting, Bayreuth.

[40] S Chariton, E Bykova, M Bykov, V Cerantola, D Vasiukov, M Stękiel, G Aprilis, I Kupenko, L Ismailova, A Chumakov, B Winkler, C McCammon, and L Dubrovinsky. Looking for carbonates in the deep earth. an experimental approach at extreme conditions, 11.–15. December 2017. Poster presented at the American Geophysical Union (AGU) Fall Meeting, New Orleans, USA.

[41] S Chariton, V Cerantola, E Bykova, M Bykov, I Kupenko, D Vasiukov, L Ismailova, G Aprilis, A Chumakov, C McCammon, and L Dubrovinsky. Looking for Carbonates in the Deep Earth. An experimental approach at extreme conditions, 28. August - 02. September 2017. Poster presented at the Third DCO Early Career Scientist Workshop, Nicolosi, Italy.

[42] S Chariton, C McCammon, D Vasiukov, V Cerantola, G Aprilis, A Chumakov, and L Dubrovinsky. Elastic wave velocities of fe-bearing carbonates: A nuclear inelastic scattering study for deep carbon, 13.–18. August 2017. Talk given at the Goldschmidt Conference, Paris, France.

[43] S Chariton, C McCammon, D Vasiukov, V Cerantola, I Kupenko, G Aprilis, A Chumakov, and L Dubrovinsky. Elastic wave velocities of Fe-bearing carbonates using Nuclear Inelastic Scattering: Implications for the Deep Carbon Cycle, 13. – 17. March 2017. Talk given at the Congrès des Doctorants, Paris, France.

[44] S Chariton, E Bykova, G Aprilis, M Stękiel, D Vasiukov, I Koemets, C McCammon, and L Dubrovinsky. Looking for carbonates in the deep earth. an experimental approach at extreme conditions, 17.-22. June 2018. Poster presented at the Gordon Research Conference Deep Carbon Science in the Context of Geologic Time, Smithfield, USA.

[45] S Chariton, E Bykova, M Bykov, V Cerantola, G Aprilis, C McCammon, and L Dubrovinsky. The crystal chemistry of calcite-type structure carbonates at extreme conditions, 05.-08. March 2018. Talk S02-01 given at the 26$^{\text{th}}$ Annual Meeting of the German Crystallographic Society (DGK), Essen.

[46] S Dominijanni, C McCammon, L Dubrovinsky, D Frost, and N Miyajima. Experimental investigation of the oxygen fugacity in laser heated dac experiments, 11.-12. March 2019. Talk given at EBS Workshop on Nuclear Resonance Scattering, ESRF, Grenoble, France.

[47] S Dominijanni, C McCammon, L Dubrovinsky, D Frost, and N Miyajima. Probing the variation of the oxygen fugacity in diamond anvil cells using the fe-ir alloy as redox sensor, 26.-30. May 2019. Talk given at Japan Geoscience Union Meeting (JpGU2019), Chiba, Japan.

[48] S Dominijanni, C McCammon, L Dubrovinsky, D Frost, N Miyajima, and Boffa-Ballaran. Probing the fo2 variation in laser heated dac experiments, 31. May - 01. June 2019. Talk given at JSPS Japanese-German graduate externship International Workshop on 'Volatile Cycles', Tokyo, Japan.

[49] S Dominijanni, C McCammon, L Dubrovinsky, D Frost, N Miyajima, and T M Boffa-Ballaran. Probing the fo2 conditions in laser heated DACs experiments using the Fe-Ir redox sensor, 9.–13. September 2019. Talk given at the 5$^{\text{th}}$ International Young Earth Scientists Network Congress -Rocking Earth's Future- YES Congress at Freie Universität in Berlin, Germany.

[50] S Dominijanni, C McCammon, L Dubrovinsky, D J Frost, and N Miyajima. Experimental investigation of the oxygen fugacity in laser heated DAC experiments, 11.–12. March 2019. Poster presented within EBS-Workshop on Nuclear Resonance Scattering, ESRF, Grenoble, France.

[51] S Dominijanni, C McCammon, L Dubrovinsky, D J Frost, and N Miyajima. Probing the variation of the oxygen fugacity in diamond anvil cells using the Fe-Ir alloy as redox sensor, 26.–30. May 2019. Poster presented at Japan Geoscience Union Meeting 2019, Chiba, Japan.

[52] S Dominijanni, C McCammon, L Dubrovinsky, D J Frost, N Miyajima, and T Boffa-Ballaran. Probing the fo2 variation in laser heated DAC experiments, 31. May –01. June 2019. Talk given at International Workshop on Deep Volatile Cycling in the Earth, Tokyo, Japan.

[53] S Dominijanni, C McCammon, L Dubrovinsky, D J Frost, N Miyajima, and T Boffa-Ballaran. Understanding the redox conditions during diamond anvil cells experiments, 22.–25. September 2019. Talk given at GeoMünster 2019, Münster, Germany.

[54] S Dominijanni, C McCammon, L Dubrovinsky, D J Frost, N Miyajima, and T Boffa-Ballaran. Experimental study of the mantle redox state through DACs experiments, 03.–04. June 2019. Abstract for Earth, Sea and Sky V: International Joint Graduate Program Workshop (3-4/06/2019) Sendai, Tohoku University, Japan.

[55] S Dominijanni, V Stagno, C McCammon, N Miyajima, T Irifune, and D Frost. Iron oxidation state of ferropericlase coexisting with carbonate and diamond: Implications for the origin of superdeep diamonds, 29. August - 02. September 2021. Online talk given at the 3rd European Mineralogical Conference (EMC2020), Cracow, Poland (virtual).

[56] L Dubrovinsky. Crystallography taken to the extreme, 05.–08. March 2018. Plenary lecture given at the 26th Annual Meeting of the German Crystallographic Society (DGK), Essen.

[57] L Dubrovinsky. Structural studies taken to the extreme, 05.–07. February 2018. Keynote lecture given at the ESRF User Meeting, Grenoble, France.

[58] L Dubrovinsky. Crystallography above 100 GPa: surprises and challenges, 30. June 2020. Talk given at European XFEL Science Seminar, online.

[59] L Dubrovinsky, N Dubrovinskaia, and S Chariton. Structural mineral physics at extreme conditions, 11.–15. December 2017. Invited Talk presented at the American Geophysical Union (AGU) Fall Meeting, New Orleans, USA.

[60] I Efthimiopoulos. Vibrational properties of dolomite at extreme conditions, 04.–09. September 2016. Talk O19.5 given at the 54th European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[61] I Efthimiopoulos, A Kuras, U Schade, and M Koch-Müller. Vibrational properties of dolomite at extreme conditions, 17.–18. June 2016. Talk given at the DMG Sektionstreffen Petrologie/Petrophysik & Geochemie, Bremen.

[62] I Efthimiopoulos, A Kuras, U Schade, and M Koch-Müller. Vibrational properties of dolomite at extreme conditions, 05.–08. June 2016. Talk given at the 15th International Symposium on Experimental Mineralogy, Petrology and Geochemistry (EMPG), Zurich, Switzerland.

[63] C-J Fruhner, L Bayarjargal, R Luchitskaia, and B Winkler. Pressure-induced phase transition from calcite to aragonite detected by fluorescence spectroscopy, 14.–17.

March 2016. Poster P113 presented at the 24th Annual Meeting of the German Crystallographic Society (DGK), Stuttgart.

[64] C-J Fruhner, L Bayarjargal, and B Winkler. High pressure studies on carbonate crystals using coherent anti-Stokes Raman Spectroscopy, 04.–09. September 2016. Talk O19.2 given at the 54th European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[65] C-J Fruhner, L Bayarjargal, and B Winkler. High pressure studies on carbonate crystals using coherent anti-Stokes Raman Spectroscopy, 14.–19. August 2016. Talk given at the XXV International Conference on Taman Spectroscopy (ICORS), Fortaleza, Brasil.

[66] C-J Fruhner, L Bayarjargal, N Schrodt, R Luchitskaia, and B Winkler. Pressure induced phase transition in Eu doped $CaCO_3$ detected by fluorescence spectroscopy, 27.–30. March 2017. Talk MS12-05 given at the 25th Annual Meeting of the German Crystallographic Society (DGK), Karlsruhe.

[67] CJ Fruhner, L Bayarjargal, D Zimmer, R Luchitskaia, E Bykova, W Morgenroth, and B Winkler. A new high-pressure and high-temperature polymorph of $FeCO_3$, 05.–08. March 2018. Talk S02-05 given at the 26th Annual Meeting of the German Crystallographic Society (DGK), Essen.

[68] S Gentili, S Speziale, B Wunder, HJ Reichmann, A Zucchini, and P Comodi. The elastic stiffness tensor of natural dolomite, 04.–09. September 2016. Poster P19.5 presented at the 54th European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[69] S Gentili, S Speziale, A Zucchini, P Comodi, HJ Reichmann, and B Wunder. The effect of cations order/disorder on the elastic properties of dolomite, 11.–15. September 2016. Talk given at the 2nd European Mineralogical Conference (EMC), Rimini, Italy.

[70] S Jahn and M Koch-Müller. Phase behavior and vibrational properties of calcite-derived $CaCO_3$ polymorphs up to 30 GPa: A combined computational and experimental study., 11.–15. September 2016. Talk given at the 2nd European Mineralogical Conference (EMC), Rimini, Italy.

[71] S Jahn and R Rullan. Structural relations between calcite and dolomite related high-pressure phases, 18.- 22. July 2022. Poster at 23rd General Meeting of the International Mineralogical Association (IMA 2022) Lyon, France.

[72] J Kaa. High pressure and temperature x-ray emission and diffraction studies of iron containing minerals at the european xfel, 20.-23. October 2020. Online Talk at WE-Heraeus-Seminar: Matter under Extreme Conditions.

[73] J Kaa. Simultaneous xes and xrd measurements at high p/t at hed, 29.-31. January 2020. Talk at European XFEL Users' Meeting, Schenefeld, Germany.

[74] J Kaa. High pressure and temperature x-ray emission and diffraction studies of iron containing minerals at the european xfel, 2020. Poster at European XFEL Science Days, Schenefeld, Germany.

[75] J Kaa. High pressure and temperature x-ray emission and diffraction studies of iron containing minerals at the european xfel, 26. - 30.Juli 2021. Talk at CSEC, Edinburgh, UK.

[76] J Kaa. Dynamics of the volume collapse and spin transition in feco3: A simultaneous high pressure and high temperature x-ray emission and x-ray diffraction study, 25.-29. January 2021. Talk at European XFEL Users' Meeting, Schenefeld, Germany.

[77] J Kaa. Towards xes of light element containing fe-minerals at conditions of the core of terrestrial planets: a study of fes, 16.-22. July 2022. Talk at Gordon Research Seminar/Conference, Holderness School, New Hampshire, USA.

[78] J Kaa. X-ray emission measurements from x-ray heated fes contained in a dac, 3.-11. June 2022. Poster at International School of Crystallography, Erice, Italy.

[79] J Kaa. X-ray emission measurements from x-ray heated matter contained in a dac: A study of fes and (fe,mg)o, 12.-19. March 2022. Poster at.

[80] J Kaa. X-ray emission measurements from x-ray heated melts contained in a dac: A study of fes and (fe,mg)o, 21.-27. January 2022. Talk at European XFEL Users' Meeting, Schenefeld, Germany.

[81] J Kaa. Towards xes of light element containing fe-minerals at conditions of the core of terrestrial planets: a study of fes, 27. June 2022. Talk at European XFEL Students Days.

[82] J Kaa, C Albers, K Appel, V Cerantola, M Elbers, L Libon, M Makita, A Pelka, S Petitgirard, C Plueckthun, T Preston, C Sahle, V Roddatis, R Sakrowski, A Schmidt, A Schreiber, G Spiekermann, C Sternemann, M Tolan, M Wilke, U Zastrau, and Z Konopkova. High pressure and temperature x-ray emission and diffraction studies of iron containing minerals at the european xfel, 30. November - 03. December 2020. Poster online at DMG Virtual Poster-Session 2020.

[83] M Koch-Müller. Advances in High-pressure Experimentation: application to carbonate and oxide systems, 27. May 2014. Talk given at the Seminar of the Geophysical Laboratory of Carnegie Science, Washington D.C., USA.

[84] M Koch-Müller. Pressure- and temperature-induced phase transitions in solids: three applications, 15. June 2015. Talk given at the Zentrum für Festkörperchemie und Neue Materialien and Geo Colloquium, Institute of Geology, Leibnitz University Hannover.

[85] M Koch-Müller. Carbonates under extreme conditions – two examples: (i) the high-spin to low-spin transition of iron in siderite and (ii) melting relations in the system $CaCO_3$–$MgCO_3$ at 6 GPa, 02. June 2017. Talk given at the Seminar of the Institute of Mineralogy and Crystallography, University Vienna, Austria.

[86] M Koch-Müller and J Müller. Carbonates under extreme conditions, 30. November 2018. Talk given during the seminar "Frontiers in Earth Science" at the Münchner GeoZentrum.

[87] M Koch-Müller, S Jahn, N Birkholz, E Ritter, and U Schade. Phase transitions in the system $CaCO_3$ at high P and T determined by in-situ vibrational spectroscopy in diamond-anvil cells, 17.–18. June 2015. Poster presented at the DMG Sektionstreffen Petrologie/Geochemie, Bremen.

[88] M Koch-Müller, S Jahn, N Birkholz, E Ritter, and U Schade. In-situ vibrational spectroscopy to study the phase relations in the system $CaCO_3$ at high P and T, 16.–21. August 2015. Talk (Abstract 1634) given at the Goldschmidt Conference, Prague, Czech Republic.

[89] M Koch-Müller, F Deon, M Mrosko, J Müller, A Watenphul, and B Wunder. The rocking multi-anvil-press: some applications. A tribute to Max Schmidt and Peter Ulmer, ETH Zürich, 05.–08. June 2016. Talk given at the 15^{th} International Symposium on Experimental Mineralogy, Petrology and Geochemistry (EMPG), Zurich, Switzerland.

[90] I Koemets. Carbon's role in crystal chemistry of the earth lower mantle minerals, 9.–13. September 2019. Talk given at the 5^{th} International Young Earth Scientists Network Congress -Rocking Earth's Future- YES Congress at Freie Universität in Berlin, Germany.

[91] J Koenig. Carbonates at the p, t-conditions of earth's mantle and new findings on sp^3 carbonates, 21. Mai 2021. Online talk at Minrealogische und Petrologische Seminar at University of Potsdam.

[92] I Kupenko, C Strohm, C McCammon, V Cerantola, K Glazyrin, S Petitgirard, D Vasiukov, G Aprilis, AI Chumakov, R Rüffer, and L Dubrovinsky. Time differentiated nuclear resonance spectroscopy with pulsed laser heating in diamond anvil cells, 16.–21. August 2015. Talk (Abstract 1718) given at the Goldschmidt Conference, Prague, Czech Republic.

[93] I Kupenko, C Strohm, C McCammon, V Cerantola, K Glazyrin, S Petitgirard, D Vasiukov, G Aprilis, AI Chumakov, R Rüffer, and L Dubrovinsky. Time differentiated nuclear resonance spectroscopy with pulsed laser heating in diamond anvil cells, 13.–18. September 2015. Talk C-30 given at the International Conference in the Application of the Mössbauer Effect (ICAME), Hamburg.

[94] L Libon, M Wilke, and K Appel. Reaction and elemental redistribution processes between magnesite and mantle phases at transition zone to lower mantle conditions, 9.–13. September 2019. Talk given at the 5th International Young Earth Scientists Network Congress -Rocking Earth's Future- YES Congress at Freie Universität in Berlin, Germany.

[95] L Libon, M Wilke, G Spiekermann, K Appel, and B Wunder. Phase stabilities and elemental redistribution processes between magnesite and mantle silicate at conditions of the lower mantle, 2019. Poster Mon: 61 10a) Minerals in the depths: an experimental approach, preseneted at GeoMünster 2019, Münster, Germany.

[96] L Libon, G Spiekermann, K Appel, N Biedermann, C Albers, K Glazyrin, and M Wilke. Phase stabilities and fe/sr/la partitioning between magnesite (mgco3) and mantle silicates at lower mantle conditions, 04.-08. May 2020. In EGU General Assembly Conference 2020 Abstracts (p. 8879).

[97] L Libon, G Spiekermann, M Sieber, J Kaa, K Appel, S Dominijanni, W Morgenroth, C Albers, N Biedermann, C McCammon, V Roddatis, K Glazyrin, R Husband, L Hennet, and M Wilke. Experimental investigation of the phase stability in the bridgemanite-magnesite system, 30. November - 03. December 2020. Poster online at DMG Virtual Poster-Session 2020.

[98] L Libon, G Spiekermann, M Sieber, J Kaa, S Dominijanni, C Albers, ..., and M Wilke. The fate of magnesite in the earth's lower mantle, 26.-30. July 2021. Talk given at Conference on Science at Extreme Conditions (CSEC-2021), Edinburg, Scotland.

[99] L Libon, G Spiekermann, M Sieber, J Kaa, S Dominijanni, C Albers, ..., and M Wilke. Carbon in the deep earth: The fate of magnesite in the earth's lower mantle, 04.-09. July 2021. Online talk given at conference Goldschmidt2021.

[100] L Libon, G Spiekermann, M Sieber, J Kaa, S Dominijanni, N Biedermann, ..., and M Wilke. Experimental investigation of the phase stability in the bridgmanite-magnesite system, 01.-03. March 2021. Talk given at the 17th International Symposium on Experimental Mineralogy, Petrology and Geochemistry (EMPG-XVII) Potsdam, Germany.

[101] L Libon, G Spiekermann, M Sieber, J Kaa, S Dominijanni, M Elbers, ..., and M Wilke. Subducted carbon in the earth's lower mantle: The fate of magnesite (no. egu22-9318), 23.-27. May 2022. Talk given at EGU General Assembly 2022.

[102] L Libon, G Spiekermann, M Sieber, J Kaa, S Dominijanni, M Elbers, ..., and M Wilke. The fate of subducted magnesite in the earth's lower mantle, 18.- 22. July 2022. Talk will be given at 23rd General Meeting of the International Mineralogical Association (IMA 2022) Lyon, France.

[103] L Libon, G Spiekermann, M Sieber, J Kaa, S Dominijanni, M Elbers, ..., and M Wilke. The fate of subducted magnesite in the earth's lower mantle, 05.-07. September 2022. Poster at German Conference for Research with Synchrotron Radiation, Neutrons and Ion Beams at Large Facilities (SNI 2022), Freie Universität Berlin, Germany.

[104] S Lobanov. Crossover to diamond-like carbonates in the lower mantle, 24.–26. October 2019. Lightning talk given at Deep Carbon 2019: Launching the Next Decade of Deep Carbon Science, Washington, D.C., USA.

[105] N Martirosyan and I Podborodnikov. Experimental modeling of the $CaCO_3$–peridotite–Fe system and its role in the formation of Ca-rich inclusions in diamonds, 9.–13. September 2019. Talk given at the 5^{th} International Young Earth Scientists Network Congress -Rocking Earth's Future- YES Congress at Freie Universität in Berlin, Germany.

[106] N S Martirosyan, I Efthimiopoulos, L Pennacchioni, R Wirth, S Jahn, and M Koch-Müller. Pressure induced phase transitions in caco3-srco3 solid solution, 01.- 03. March 2021. online talk at EMPG XVII - 17th International Symposium on Experimental Mineralogy, Petrology and Geochemistry Germany.

[107] C McCammon. The deep oxygen cycle, 03.–06. July 2016. Talk given at the International Workshop: New Challenges in Volatile Cycling in the Deep Earth, Tohoku, Japan.

[108] C McCammon. Seeking carbon in the deep Earth, 03.–08. September 2017. Talk given at the International Conference on the Applications of the Mössbauer Effect.

[109] C McCammon. Small, smaller, smallest, 27. November 2017. Talk given at the Seminar of the Geophysical Laboratory of Carnegie Science, Washington D.C., USA.

[110] C McCammon. A synchrotron journey inside the Earth, 13.–15. March 2017. Talk given at the 29^{th} MAX IV Laboratory User Meeting, Lund, Sweden.

[111] C McCammon. What makes waves in some parts of the rocks inside our world go fast?, 10.–14. December 2018. Talk given at the American Geophysical Union (AGU) Fall Meeting, Washington DC, USA.

[112] C McCammon. Deep electron transfer between iron and carbon, 13.–17. August 2018. Invited Talk given at the XXII Meeting of the International Mineralogical Association, Melbourne, Australia.

[113] C McCammon. Deep carbon: Fact or fiction, and where could it be hiding?, 27. August 2018. Invited Talk given at Monash University, Clayton, Australia.

[114] C McCammon. Mössbauer spectroscopy with high spatial resolution: Spotlight on geoscience, 15.–17. November 2018. Talk given at the 9th TOYOTA RIKEN International Workshop on Mössbauer Spectroscopy, Nagoya, Japan.

[115] C McCammon. Remote sensing our own planet or how deep does the carbon cycle really go?, 22. August 2018. Invited Talk given at the University of New South Wales, Canberra, Australia.

[116] C McCammon. Who cares about deep carbon sequestration?, 22.–23. March 2018. Talk given at the Earth in Five Reactions Workshop, Washington DC, USA.

[117] C McCammon. Session II Chair: New Programs Emerging from DCO, 24.–26. October 2019. Session II Chair Leader at Deep Carbon 2019: Launching the Next Decade of Deep Carbon Science, Washington, D.C., USA.

[118] C McCammon and B Winkler. Spotlight on carbonates under pressure, 23.–25. March 2017. Talk given at the 3rd Deep Carbon Observatory International Science Meeting, St. Andrews, Great Britain.

[119] C McCammon and B Winkler. CarboPaT continues! Past and future exploration of carbonates at extreme conditions, 17.–22. June 2018. Poster presented at the Gordon Research Conference Deep Carbon Science in the Context of Geologic Time, Smithfield, USA.

[120] C McCammon, V Cerantola, I Kupenko, R Sinmyo, V Potapkin, AI Chumakov, R Rüffer, and L Dubrovinsky. Redox chemistry of carbonates at megabar pressure range, 26.–30. October 2015. Talk given at the CECAM Workshop: Carbon at Extreme Conditions, Lugano, Switzerland.

[121] C McCammon, L Dubrovinsky, V Cerantola, I Kupenko, R Sinmyo, IY Kantor, and AI Chumakov. Does deep carbon have a seismic signature?, 26.–28. March 2015. Talk given at the 2nd Deep Carbon Observatory (DCO) International Science Meeting, Munich.

[122] C McCammon, L Dubrovinsky, I Kupenko, V Cerantola, K Glazyrin, V Potapkin, IY Kantor, A Kantor, IY Kantor, R Sinmyo, C Prescher, O Narygina, S Petitgirard, I Sergueev, C Strohm, G Aprilis, D Vasiukov, L Ismailova, G Smirnov, R Rüffer, and A Chumakov. Descent to the underworld or a synchrotron opera in many acts, 13.–18. September 2015. Plenary talk I-1 given at the International Conference in the Application of the Mössbauer Effect (ICAME), Hamburg.

[123] C McCammon, C Prescher, R Sinmyo, K Glazyrin, I Kupenko, A Kantor, V Potapkin, V Cerantola, A Chumakov, R Rüffer, and L Dubrovinsky. Nuclear inelastic scattering and geophysics: Triumphs and setbacks, 21.–23. September 2015. Poster presented at the 5th International Workshop on Nuclear Resonance Scattering of Synchrotron Radiation: Status, Highlights, Methodology, and Trends, Hamburg.

[124] C McCammon, J van Driel, I Kupenko, R Sinmyo, V Cerantola, V Potapkin, AI Chumakov, R Rüffer, and L Dubrovinsky. The deep oxygen cycle in the early Earth, 14.–18. December 2015. Invited Talk DI44A-04 given at the American Geophyiscal Union (AGU) Fall Meeting, San Francisco, USA.

[125] C McCammon, G Aprilis, C Strohm, I Kupenko, V Cerantola, D Vasiukov, A Chumakov, R Rüffer, and L Dubrovinsky. It's about time: a new parameter to probe hyperfine interactions under extreme conditions, 03.–08. July 2016. Plenary talk given at the International Conference on HYPERFINE Interactions and their Applications, Leuven.

[126] C McCammon, S Chariton, V Cerantola, I Kupenko, D Vasiukov, G Aprilis, A Chumakov, and L Dubrovinsky. A nuclear inelastic scattering window to the deep Earth, 11.-15. September 2016. Poster 14-19 presented at the 2nd European Mineralogical Conference (EMC), Rimini, Italy.

[127] C McCammon, S Chariton, V Cerantola, I Kupenko, D Vasiukov, G Aprilis, AI Chumakov, and L Dubrovinsky. Elastic properties of iron-bearing carbonates and implications for the deep Earth, 04.–09. September 2016. Poster P19.2 presented at the 54th European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[128] C McCammon, V Cerantola, E Bykova, I Kupenko, M Bykov, A Chumakov, R Rüffer, and L Dubrovinsky. Tracing iron-carbon redox from surface to core, 11.–15. December 2017. Talk given at the American Geophysical Union (AGU) Fall Meeting, New Orleans, USA.

[129] C McCammon, K Armstrong, D Frost, D Rubie, and B Boffa. How earth's early magma ocean captured mantle carbon, 24.–26. October 2019. Deep Carbon 2019, Washington, D.C., USA.

[130] C McCammon, S Dominijanni, N Miyajima, Frost D J, and L Dubrovinsky. Deciphering deep volatile cycles in early earth, 09.–13. December 2019. Abstract and invited talk MR51D-0072 given at the American Geophyiscal Union (AGU) Fall Meeting, San Francisco, USA.

[131] C McCammon, S Dominijanni, L Dubrovinsky, N Miyajima, I Koemets, and D J Forst. Developing a laboratory technique to probe volatile transport in the deep mantle, 12.-16. July 2020. Virtual talk at JpGU – AGU Joint Meeting 2020.

[132] C McCammon, S Dominijanni, L Dubrovinsky, N Miyajima, I Koemets, and D J Forst. Developing a laboratory technique to probe volatile transport in the deep mantle, 12.-16. July 2020. Virtual talk at JpGU – AGU Joint Meeting 2020.

[133] W Morgenroth, H-P Liermann, and B Winkler. A fast LAMBDA detector and pink beam at the extreme conditions beamline P02.2 at PETRA III., 04.–09. September 2016. Poster P4.1 presented at the 54th European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[134] J Müller, D Rhede, and M Koch-Müller. Melting relations in the system $CaCO_3$–$MgCO_3$ at 6 GPa, 21.–24. September 2014. Talk given at the 92nd Annual Meeting of the DMG, Jena.

[135] J Müller, M Koch-Müller, and S Jahn. In-situ Raman and infra red spectroscopy on siderite up to 60 GPa and maximum 1000 K, 04.–07. October 2015. Talk given at the 93rd Annual Meeting of the DGGV and the DMG, Berlin.

[136] J Müller, M Koch-Müller, and S Jahn. Electronic high-spin to low-spin transition in siderite at high pressure and temperature. Periodico di Mineralogia 125-126, 09.–11. September 2015. Talk given at the 8th European Conference on Mineralogy and Spectroscopy (ECMS), Rome, Italy.

[137] J Müller, M Koch-Müller, D Rhede, and R Wirth. Melting relations in the system $CaCO_3$–$MgCO_3$ at 6 GPa: A comparison between anhydrous and hydrous conditions, 04.–09. September 2016. Talk O19.3 given at the 54th European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[138] J Müller, S Speziale, S Jahn, and M Koch-Müller. Electronic spin transition in siderite at high pressure studied by Raman spectroscopy: Evidence for a sharp spin transition, 26. June – 01. July 2016. Lightning Talk (Abstract 2183) given at the Goldschmidt Conference, Yokohama, Japan.

[139] J Müller, I Efthimiopoulos, S Jahn, and M Koch-Müller. The effect of temperature on the pressure-induced spin transition in siderite and ferromagnesite, 23.–24. June 2017. Talk given at the DMG Sektionstreffen Petrologie/Petrophysik und Geochemie, Berlin.

[140] J Müller, I Efthimiopoulos, S Jahn, and M Koch-Müller. Effect of temperature on the pressure-induced spin transition in siderite and ferromagnesite derived from Raman spectroscopy, 13.–18. August 2017. Talk given at the Goldschmidt Conference, Paris, France.

[141] J Müller, I Efthimiopoulos, S Speziale, M Taran, A Friedrich, S Jahn, and M Koch-Müller. Fe-bearing carbonates at extreme conditions with focus on high spin to low spin transitions, 29. June 2017. Talk given at the Seminar of the Institute of Mineralogy, University Münster.

[142] L Pennacchioni. Elasticity and structure evolution of carbonates at upper mantle conditions, 9.–13. September 2019. Talk given at the 5th International Young Earth Scientists Network Congress -Rocking Earth's Future- YES Congress at Freie Universität in Berlin, Germany.

[143] L Pennacchioni, S Speziale, B Winkler, and L Bayarjargal. Elastic properties of dolomite-ankerite solid solutions, 01.- 03. March 2021. online talk at EMPG XVII - 17th International Symposium on Experimental Mineralogy, Petrology and Geochemistry Germany.

[144] L Pennacchioni, N Martirosyan, S Speziale, and B Winkler. Elastic properties of dolomite-ankerite solid solutions, 14.- 17. March 2022. online poster at 30th meeting of the Deutschen Gesellschaft für Kristallographie.

[145] L Pennacchioni, S Speziale, L Bayarjargal, and B Winkler. Elasticity of amorphous calcium carbonate as a function of the water content from brillouin spectroscopy up to 20 gpa, 18.- 22. July 2022. Talk will be given at 23rd General Meeting of the International Mineralogical Association (IMA 2022) Lyon, France.

[146] R Sakrowski, G Spiekermann, C Albers, C Sternemann, H Gretarsson, M Sundermann, J Ablett, J-P Rueff, L Ziberna, C McCammon, M Tolan, and M Wilke. Iron spin transition in bridgmanite revisited, 01.-6. September 2019. Poster at 57th European High Pressure Research Group International Meeting on High Pressure Science and Technology (EHPRG), Prague, Czech Republic.

[147] R Sakrowski, G Spiekermann, C Albers, N Thiering, L Libon, H Gretarsson, M Sundermann, J-P Rueff, J Ablett, M Tolan, M Wilke, and C Sternemann. Investigation of the electronic structure of iron in bridgmanite at deep mantle pressure conditions by (resonant) x-ray emission spectroscopy, 30. August - 03. September 2021. Poster at DPG-Tagung, online.

[148] R Sakrowski, G Spiekermann, C Albers, N Thiering, L Libon, H Gretarsson, M Sundermann, J-P Rueff, J Ablett, M Tolan, M Wilke, and C Sternemann. Investigation of the electronic structure of iron in bridgmanite at deep mantle pressure conditions by (resonant) x-ray emission spectroscopy, 11.-13. Juli 2021. online Poster at XAFS 2021, Sydney, Australia.

[149] R Sakrowski, G Spiekermann, C Albers, N Thiering, L Libon, H Gretarsson, M Sundermann, J-P Rueff, J Ablett, M Tolan, M Wilke, and C Sternemann. Iron in bridgmanite shows gradual change in spin moment up to 145 gpa in case of fe2+and a sharp transition around 48 gpa for fe3+, 7.-9. February 2022. Poster at European XFEL Users' Meeting 2022 online.

[150] U Schade, I Efthimiopoulos, J Müller, E Ritter, and M Koch-Müller. A new FIR microscope at IRIS, 13.–18. August 2017. Poster presented at the Goldschmidt Conference, Paris, France.

[151] T Schlothauer, E Brendler, C Schimpf, E Kroke, and G Heide. Shock-wave treatment of carbonates at pressures beyond 100 GPa: New possibilities for an old method?, 04.–09. September 2016. Talk O19.8 given at the 54^{th} European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[152] T Schlothauer, C Schimpf, E Kroke, G Heide, and MR Schwarz. The role of decompression and micro-jetting in shock-wave synthesis experiments, 01.–06. March 2016. Talk given at the XXXI International Conference on Equations of State for Matter, Elbrus, Russia.

[153] T Schlothauer, U Kempe, E Kroke, and G Heide. Shock wave treatment of calcite up to 116 GPa, 13.–18. August 2017. Poster presented at the Goldschmidt Conference, Paris, France.

[154] T Schlothauer, C Schimpf, G Heide, and E Kroke. Using of W-Cu-alloys for synthesis experiments: A pathway to the 2 Mbar boundary?, 01.–06. March 2017. Talk given at the XXXII International Conference on Interaction of Intense Energy Fluxes with Matter, Elbrus, Russia.

[155] M Sieber. Carbonates under high pressure and temperatures: CarboPaT, 9.–13. September 2019. Session Chair at the 5^{th} International Young Earth Scientists Network Congress -Rocking Earth's Future- YES Congress at Freie Universität in Berlin, Germany.

[156] M Sieber. COH-fluid driven carbonation of the hydrated forearc mantle and (partial) melting of carbonates at 200km, 6. February 2020. Talk given at colloquium of Institute of Mineralogy at WWU Münster/Germany.

[157] M Sieber. Supra-solidus phase relations of Ca-Mg-carbonates and melting point of hydrous magnesite in the upper mantle, 29.–31. January 2020. Talk given at DESY Photon Science Users' Meeting 2020/ European XFEL Users'Meeting 2020, Hamburg/Germany.

[158] M Sieber, F D H Wilke, and M Koch-Müller. Partition coefficients for trace elements in carbonate melt and supra-solidus phase relations of ca-mg-carbonates at 6 gpa, 2019. Talk given DMG section meeting: Geochemistry, Petrology and Geophysic, Germany.

[159] M Sieber, F Wilke, H J Reichmann, and M Koch-Müller. Phase relations of Ca-Mg-carbonates and trace element partition coefficients between carbonates and dolomitic melt at 6 and 9 GPa, 04.–08. May 2020. Talk given at EGU General Assembly 2020 Session GMPV8.4, online.

[160] M Sieber, H-J Reichmann, R Farla, O Appelt, F D H Wilke, M Oelze, C Lathe, and M Koch-Müller. Melting relations of ca-mg-carbonates and thermal stabiliy of magnesite in the earth's upper mantle, 2021. Online talk given at Satellite Workshop DESY: Development of multianvil technology and its application to Earth and material sciences.

[161] M Sieber, H-J Reichmann, C Lathe, R Farla, O Appelt, F D H Wilke, M Oelze, and M Koch-Müller. Thermal stability of carbonates in the earth's upper mantle – results from in situ ma investigations and rocking ma presses, 2021. Online talk given at Development of multianvil technology and its application to Earth and material sciences.

[162] M J Sieber. Experimental results on formation and melting of carbonates in the mantle, 18. - 22. July 2022. Talk will be given at MIA, Lyon, France.

[163] M J Sieber, H-J Reichmann, R Farla, and M Koch-Müller. Melting and subsolidus reaction in the system mg(oh)2-mgco3 between 2 and 12 gpa, 11. - 15. September 2022. Talk will be given at GeoMinKoeln, Cologne, Germany.

[164] M J Sieber, H-J Reichmann, R Farla, C Lathe, and M Koch-Müller. Melting curve of magnesite in the presence of an aqueous fluid at upper mantle conditions, 05.-07. September 2022. Talk will be given at German Conference for Research with Synchrotron Radiation, Neutrons and Ion Beams at Large Facilities, Berlin, Germany.

[165] M J Sieber, M Wilke, M Oelze, O Appelt, F D H Wilke, and M Koch-Müller. Melting relations of carbonates and trace element partitioning between carbonates and carbonate liquid in the earth's upper mantle, 23. - 27. May 2022. Talk at European Geosciences Union (EGU) General Assembly 2022, online.

[166] D Spahr. (invited) tetrahedrally-coordinated sp3-hybridized carbon in ca2co4 and sr2co4 orthocarbonate, 26. - 30.Juli 2021. Online talk at CSEC, Edinburgh, UK.

[167] D Spahr, L Bayarjargal, V Vinograd, R Luchitskaia, V Milman, and B Winkler. A new $BaCa(CO_3)_2$ polymorph, 25.–28. November 2019. Lightning Talk given at DGK Leipzig, 26.3.2019 16:35 LT1-14.

[168] S Speziale, S Gentili, B Wunder, HJ Reichmann, A Zucchini, and P Comodi. The elastic stiffness tensor of dolomite, 04.–09. September 2016. Poster P19.5 presented at the 54^{th} European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[169] S Speziale, L Pennacchioni, Land Bayarjargal, and B Winkler. Elastic properties of natural and synthetic carbonates by brillouin scattering, 18.- 23. August 2019. Poster at Goldschmidt 2019, Barcelona, Spain.

[170] S Speziale, L Pennacchioni, N Martirosyan, and B Winkler. The elasticity of the dolomite-ankerite system, 18.- 22. July 2022. Poster at 23rd General Meeting of the International Mineralogical Association (IMA 2022) Lyon, France.

[171] M Stękiel, L Bayarjargal, W Morgenroth, R Luchitskaia, M Koch-Müller, and B Winkler. Millisecond time resolved diffraction study of $SrCO_3$ at high pressures and temperatures, 04.–09. September 2016. Talk O4.7 given at the 54^{th} European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[172] M Stękiel, L Bayarjargal, W Morgenroth, R Luchitskaia, and B Winkler. Millisecond time resolved diffraction study of $SrCO_3$ at high pressures and temperatures, 14.–17. March 2016. Lightning Talk MS04-17 given and Poster P083 presented at the 24^{th} Annual Meeting of the German Crystallographic Society (DGK), Stuttgart.

[173] M Stękiel, TT Nguyen, S Chariton, C McCammon, A Bosak, K Refson, and B Winkler. High pressure elastic properties of $FeCO_3$, 04.–09. September 2016. Talk O19.4 given at the 54^{th} European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[174] M Stękiel, T Nguyen Thanh, S Chariton, C McCammon, A Bosak, R Luchitskaia, K Refson, V Milman, and B Winkler. High pressure elastic properties of $FeCO_3$ and $MgCO_3$, 27.–30. March 2017. Talk MS04-05 given at the 25^{th} Annual Meeting of the German Crystallographic Society (DGK), Karlsruhe.

[175] M Stękiel, T Nguyen Thanh, S Chariton, C McCammon, A Bosak, W Morgenroth, K Refson, V Milman, and B Winkler. High pressure elasticity of $FeCO_3$–$MgCO_3$ carbonates, 19.–23. August 2017. Talk given at the 26^{th} International Association for the Advancement of High Pressure Science and Technology (AIRAPT), Beijing, China.

[176] M Stękiel, T Nguyen Thanh, S Chariton, C McCammon, A Bosak, W Morgenroth, K Refson, V Milman, and B Winkler. High pressure elasticity of $FeCO_3$–$MgCO_3$ carbonates, 03.–08. September 2017. Talk given at the 55^{th} European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Poznań, Poland.

[177] M Stękiel, A Girard, T Nguyen Thanh, W Morgenroth, A Bosak, and B Winkler. Lattice dynamics of $CaCO_3$ and $MgCO_3$, 05.–08. March 2018. Talk S14-03 given at the 26^{th} Annual Meeting of the German Crystallographic Society (DGK), Essen.

[178] M Stękiel, T Nguyen Thanh, S Chariton, A Bosak, W Morgenroth, V Milman, K Refson, and B Winkler. Elasticity and seismic signature of $FeCO_3$–$MgCO_3$ carbonates in the lower mantle, 15.–22. June 2018. Poster presented at the Gordon Research Conference Deep Carbon Science in the Context of Geologic Time, Smithfield, USA.

[179] C Sternemann. How to study low Z element's absorption edges at extreme conditions, 05. December 2014. Talk given at the ESRF spectroscopy seminar, ESRF, Grenoble, France.

[180] C Sternemann. In situ Spektroskopie leichter Elemente unter extremen Bedingungen, 13. January 2016. Colloquium given at the Faculty of Natural and Materials Science at TU Clausthal, Clausthal.

[181] C Sternemann. What to do with a portable von Hamos spectrometer?, 3.–5. December 2019. Talk within EBS Workshop on X-Ray Emission Spectroscopy, ESRF, Grenoble, France.

[182] C Sternemann. X-ray emission spectroscopy at extreme conditions: Perspectives for petra iv, 05.-06. November 2020. Given talk at Satellite Workshop on Scientific Instrument Proposals for Extreme Pressures and Temperatures Research at PETRA IV, Hamburg via Zoom from Suderwich.

[183] C Sternemann. Fe k-beta spectroscopy from high pressure states in diamond anvil cells, using 4.5 mhz x-ray heating, 20.-23. October 2020. Talk at European XFEL Users' Meeting, Schenefeld, Germany.

[184] C Sternemann. Electronic structure and bonding properties of light-element compounds at conditions of planetary interiors, 02.-04. November 2020. Given talk at PETRA IV Workshop - Earth, Environment, and Materials for Nanoscience and Information Technology, Hamburg via Zoom from Suderwich.

[185] C Sternemann. High pressure and high temperature: Spectroscopy of glasses and melts, 29.-30. June 2020. Given talk at PXAS@PIV-Workshop, Hamburg via Zoom from Suderwich.

[186] C Sternemann. X-ray emission and x-ray raman scattering spectroscopy at beamline p01 of petra iii: Applications in earth science, p01 beamline review, petra iii, desy, 05.-06. April 202022. Online talk at PETRA III, DESY, Hamburg (virtual).

[187] C Sternemann. Electronic and structural properties of iron-bearing carbonates and silicates – exploring glasses and melts at the esrf-ebs, 09. February 2022. Online talk at User Dedicated Microsymposium 1, New opportunities for high pressure science at the ESRF, Grenoble.

[188] C Sternemann, C Weis, C Schmidt, V Cerantola, CJ Sahle, G Spiekermann, M Harder, M Tolan, and M Wilke. In situ characterization of the local coordination, oxidation, and spin state of Earth materials at pressure and temperature, 22.–26. November 2015. Talk given at the 9^{th} International Conference on Inelastic X-ray Scattering (IXS), Hsinchu, Taiwan.

[189] C Sternemann, C Bressler, M Tolan, M Biednov, M Elbers, A Galler, W Gawelda, D Khakulin, K Kubicek, F M Lima, F Otte, G Spiekermann, C Weis, M Wilke, and P Zalden. Combining X-ray emission and X-ray Raman spectroscopy at the scientific instrument FXE of the Europen XFEL, 7.-19. September 2018. Talk given at Deutsche Tagung für Forschung mit Synchrotronstrahlung, Neutronen und Ionenstrahlen an Großgeräten 2018 (SNI2018) in Garching, Germany.

[190] S J Tracy, R Smith, E Berryman, K Donghoon, S Han, A E Gleason, C Bolme, M Schölmerich, K Appel, V Prakapenka, H J Lee, and T S Duffy. Calcite Phase Transitions and Melting Under Shock Loading and Release Using Ultrafast X-Ray Diffraction, 09.–13. December 2019. Invited Talk MR33A-03 given at the American Geophyiscal Union (AGU) Fall Meeting, San Francisco, USA.

[191] D Vasiukov, E Bykova, I Kupenko, L Ismailova, V Cerantola, G Aprilis, C McCammon, AI Chumakov, E Greenberg, C Prescher, VB Prakapenka, L Dubrovinsky, and N Dubrovinskaia. Pressure-induced spin pairing transition in trivalent iron octahedrally coordinated by oxygen, 04.–09. September 2016. Talk O8.3 given at the 54^{th} European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[192] C Weis, C Sternemann, M Wilke, V Cerantola, CJ Sahle, G Spiekermann, and M Tolan. Pressure-induced spin transition of Fe^{2+} in siderite $FeCO_3$ studied by

X-ray Raman scattering, 15.–20. March 2015. Poster presented at the 79$^{\text{th}}$ Annual Meeting of the DPG and DPG Spring Meeting, Berlin.

[193] C Weis, C Sternemann, M Wilke, V Cerantola, CJ Sahle, G Spiekermann, and M Tolan. Pressure-induced spin transition of iron in siderite single crystal studied by X-ray Raman scattering, 30. August – 04. September 2015. Poster presented at the 25$^{\text{th}}$ International Association for the Advancement of High Pressure Science and Technology (AIRAPT) and the 53$^{\text{th}}$ European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Madrid, Spain.

[194] C Weis, C Sternemann, M Wilke, V Cerantola, CJ Sahle, G Spiekermann, and M Tolan. Pressure-induced spin transition of iron in siderite single crystal studied by X-ray Raman scattering, 23.–28. August 2015. Poster presented at the 15$^{\text{th}}$ International Conference on X-ray Absorption Fine Structure (XAFS), Karlsruhe.

[195] C Weis, C Sternemann, V Cerantola, CJ Sahle, Y Forov, G Spiekermann, H Rahmann, M Wilke, and M Tolan. Pressure-induced spin transition of Fe^{2+} in magnesio-siderite solid solution and siderite studied by x-ray Raman scattering, 04.–09. September 2016. Talk O8.4 given at the 54$^{\text{th}}$ European High Pressure Research Group (EHPRG) International Meeting on High Pressure Science and Technology, Bayreuth.

[196] C Weis, C Sternemann, M Wilke, V Cerantola, CJ Sahle, G Spiekermann, Y Forov, H Rahmann, and M Tolan. Pressure-induced spin transition of Fe^{2+} in magnesio-siderite solid solution and siderite studied by X-ray Raman scattering, 06.–11-March 2016. Talk given at the 80$^{\text{th}}$ Annual Conference of the DPG and DPG Spring Meeting, Regensburg.

[197] C Weis, R Sakrowski, G Spiekermann, M Elbers, V Cerantola, Y Forov, M Harder, H Yavaş, G Vankó, CJ Sahle, C McCammon, M Tolan, M Wilke, and C Sternemann. Fe spin transition in the Earth's mantle minerals – Insights from a combination of X-ray Raman scattering and X-ray emission spectroscopy, 22.–27. July 2018. Poster presented at the 17$^{\text{th}}$ International Conference on X-Ray Absorption Fine Structure, Kraków, Poland.

[198] C Weis, G Spiekermann, C Sternemann, M Harder, R Sakrowski, G Vankó, C Albers, V Cerantola, M Elbers, Y Forov, M Krstulovic, I Kupenko, S Petitgirard, CJ Sahle, H Yavaş, H Gretarsson, C Bressler, W Gawelda, M Tolan, and M Wilke. Combining X-ray emission and X-ray Raman scattering spectroscopy for the study of Earth materials at high pressure and high temperature, 17.–19. September 2018. Poster presented at the German Conference for Research with Synchrotron Radiation, Neutrons and Ion Beams at Large Facilities, Garching.

[199] C Weis, G Spiekermann, C Sternemann, M Harder, G Vankó, V Cerantola, CJ Sahle, Y Forov, R Sakrowski, H Yavaş, M Tolan, and M Wilke. Combining

X-ray Kβ, valence-to-core, and X-ray Raman spectroscopy for the study of Earth materials at pressure and temperature, 10.–15. June 2018. Poster presented at the 13$^{\text{th}}$ International Conference on Synchrotron Radiation Instrumentation, Taipei, Taiwan.

[200] B Winkler. DFT-based calculations for the interpretation of mineral spectra, 09.–11. September 2015. Plenary talk given at the 8$^{\text{th}}$ European Conference on Mineralogy and Spectroscopy (ECMS), Rome, Italy.

[201] B Winkler. Reactions and pressure-induced phase transitions in the diamond anvil cell, 29. May – 03. June 2016. Keynote given at the International Conference on Processing & Manufacturing of advanced materials (THERMEC), Graz, Austria.

[202] B Winkler. Carbonates and DFT modelling, 18.–19. March 2019. Invited talk at CASTEP User Workshop 2019 in Birmingham/ UK.

[203] B Winkler. Structures, properties and reactions of carbonates at high temperatures and pressures, 16.–20. December 2019. Talk given at Southern University of Science and Technology in Shenzhen/China.

[204] B Winkler. The DFG Research Unit 2125 -Structures, properties and reactions of carbonates at high pressures and temperatures, CarboPaT, 24.–26. October 2019. Talk within Session II at Deep Carbon 2019: Launching the Next Decade of Deep Carbon Science, Washington, D.C., USA.

[205] B Winkler. Structures, properties and reactions of carbonates at high temperatures and pressures, 23.–27. September 2019. Talk given at 20$^{\text{th}}$ International Symposium on Boron, Borides and Related Materials (ISBB 2019) Niigata/Japan.

[206] B Winkler. Presentation of structures, properties and reactions of carbonates at high temperatures and pressures, 21.–27. July 2019. Seminar given in Los Alamos/USA.

[207] B Winkler. Structure-property relations from thermal diffuse scattering, 29.–31. January 2020. Talk given at DESY Photon Science Users' Meeting 2020/ European XFEL Users'Meeting 2020, Hamburg/Germany.

[208] B Winkler, L Bayajargal, M Stękiel, and Binck J. Phase stabilities of carbonates, 04.–09. August 2019. Talk given at 27th AIRAPT International Conference on High Pressure Science and Technology in Rio de Janeiro, Brazil.