

Personal declaration

SoHyun PARK, Prof. Dr.



Institute

Ludwig-Maximilians-Universität München
Department für Geo- und Umweltwissenschaften
Sektion Kristallographie
Theresienstr. 41
80333 München

Tel.

++49 (0)89 2180 4333

Fax

++49 (0)89 2180 4334

e-Mail

sohyun.park@lmu.de

Languages

German: fluent

English: fluent

French, Chinese: basis

Korean: mother tongue

Education/academic title

10/12/15	Apl. Professor, Faculty Geosciences at Ludwig-Maximilians-Universität München (LMU), Germany
05/06/08	Privatdozentin <i>venia legendi</i> for the field "Crystallography" at Faculty Geosciences, LMU.
01/12/04-16/04/08	Habilitation <i>facultas docend</i> for the field "Crystallography" at Faculty Geosciences, LMU Topic: "Investigation of zeolitic lithosilicate ionic conductors" (AG Prof. Dr. Friedrich Frey: Neutron diffraction)
06/95 – 11/98	PhD Topic: "Synthesis and characterization of zeolite-like zinco- and lithosilicates", Faculty for Earth Sciences, Ruhr-Universität Bochum (RUB), supervised by Prof. Dr. Hermann Gies
11/94 – 05/95	Diploma Thesis Title: "Thermal expansion of as-synthesized and calcined porous materials", supervised by Prof. Dr. Hermann Gies, RUB
10/89 – 10/94	Diploma Study Crystallography, Mineralogy, Physical chemistry, and Material Sciences at RUB
10/88 – 06/89	German language course at RUB
03/84 – 02/87	Bachelor of Natural Science Department of Geology, Yonsei University, Seoul, South-Korea

Appointments

Since 09. 2008	Akad. Oberrätin ' <i>auf Lebenszeit</i> ' Section Crystallography (Head: Prof. Dr. Wolfgang W. Schmahl), Department for Environmental and Geosciences at LMU, Germany
01/04 – 08/08	Research scientist Section Crystallography (AG neutron diffraction, Prof. Dr. Friedrich Frey), Department for Environmental and Geosciences at LMU
07/02 – 12/03	Research scientist Max-Planck-Institute for coal research, Heterogeneous catalysis Mülheim an der Ruhr, Germany (Group: Prof. Ferdi Schüth)
09/00 – 05/02	Research scientist Department of Geosciences, State University of New York at Stony Brook, Stony Brook, USA (Group: Prof. John B. Parise)
03/99 – 08/00	Research scientist, Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, USA (Group: Dr. Brian H. Toby) in collaboration with Prof. J.B. Parise SUNY at Stony Brook, NY, USA
06/95 – 12/98	Research scientist, Institute for Mineralogy, RUB, Germany (Group: Prof. Hermann Gies).

Scholarship

12/04 – 03/05	Habilitation at LMU
03/84 – 02/88	Full scholar for 4-years BSc course (Yonsei-University, Seoul)

Skill

Synthesis and characterization of solid-state functional materials:
Magnetic materials, Li/Na-ionic conductors, protonic conductors, multiferroics, porous
materials, optical crystals.

Expert for structure determination using neutron and X-ray source in combination with
impedance, quasi-elastic neutron back scattering, solid-state NMR, IR, and Raman
spectroscopy, magnetic measurements, surface area determination (BET), thermal
analyses (DTA/DSC/TG).

Long-term cooperation for *in situ* and *ex situ* experiments at large-scale neutron and
synchrotron facilities:

Forschungsneutronenquelle FRM II (Garching, Germany);
Photon Science in DESY (Hamburg, Germany);
Center for Neutron Research NCNR (National Institute of Standards and Technology, Gaithersburg, MD, USA);
Institut Laue-Langevin ILL (Grenoble, France);
ISIS Pulsed Neutron & Muon Source (Rutherford Appleton Laboratory, Chilton, UK);
LLB (Laboratoire Leon Brillouin, Saclay, France)
PSI (Paul-Scherrer-Institut, Villigen, Suisse)
National Synchrotron Light Source NSLS (Brookhaven National Laboratory, NY, USA);
Advanced Photon Source APS (Argonne National Laboratory, Argonne, IL, USA).

Project

Deutsche Forschungsgemeinschaft (DFG):

PA-1222/1-1 Title: *Synthesis and Characterization of microporous lithosilicates Li-conductors* (Apr. 2005 – Mär. 2007; 100k Euro).

PA-1222/1-2 Title: *Modification and characterization of microporous lithosilicates Li-conductors* (Jan. 2007 – Mai 2008; 50k Euro).

Großgeräte Art. 91 b GG der DFG:

INST 86/1147-1 FUGG (127k Euro) with Prof. W.W: Schmahl: *Installation of a single crystal X-ray diffractometer and LT-device (Oxford Diff. Gemini)*, 2009.

INST 86/1147-1 FUGG (115k Euro) with Prof. W.W: Schmahl: *Installation of a dual system X-ray powder diffractometer (GE XRD3003)*, 2009.

BMBF-Verbundprojekt *Installation of Chemical Crystallography Beamline at Petra III-Extension*

05K10WM3 Title: *Long-distance-focus polarization microscope* (Jul. 2010 – Jun. 2013; 94k Euro) with Prof. W.W. Schmahl.

05K13WMB Title: *Installation of a hexapod* (Jul. 2013 – Jun. 2016; 160k Euro).

Teaching records

(The complete list of courses taught since 2004 at LMU are found in the enclosure)

Bachelor (in German)

Structure and Properties I & II (Crystal chemistry and Crystallography)

Powder diffraction: Phase analysis

Master (in English)

Material Sciences I: Neutron scattering; Frustrated magnetism

Material Sciences II: Ionic conductors and battery materials; Multiferroics.

Practice to material Sciences I & II: X-ray and neutron powder diffraction

Methods for structure determination: X-ray single crystal diffraction

Advanced powder diffraction: Diffraction from imperfect crystals and microstructures

Functional materials (Seminar)

Lab-practice (2-4 week).

Full papers peer-reviewed (* as the corresponding author)

Solid state H⁺/Li⁺/Na⁺ conductors

S.-H. Park*, C. Paulmann, M. Hoelzel, R. Hochleitner, *Mechanism for the Combined Li–Na Ionic Conductivity in Sugilite (Fe₂Na₂K[Li₃Si₁₂O₃₀])-Type Compounds*. Minerals 2023, 13(5) (2023) 620 (21pp).

A. Hartl, F. Jurányi, M. Krack, P. Lunkenheimer, A. Schulz, D. Sheptyakov, C. Paulmann, M. Appel, **S.-H. Park***, *Dynamically disordered hydrogen bonds in the hureaulite-type phosphatic oxyhydroxide Mn₅[(PO₄)₂(PO₃(OH))₂](HOH)₄*, J. Chem. Phys. 156(9) (2022) 094502 (18pp).

M. Winkler, P. Lunkenheimer, A. Loidl, **S.-H. Park***, B. Röska, M. Hoelzel, *Charge transport by global protonic conductivity and relaxational dynamics over hydrogen bonds in (Fe²⁺Fe³⁺_{3.2}(Mn²⁺,Zn)_{0.8}(PO₄)₃(OH)_{4.2}(HOH)_{0.8})*, Solid St. Ionics 347 (2020) 115240 (11pp).

A. Hartl, **S.-H. Park***, M. Hoelzel, N. Paul, R. Gilles, *Proton conductivity in a hureaulite-type compound, Mn₅[(PO₄)₂(PO₃(OH))₂](HOH)₄*, J. Solid St. Chem. 277 (2019) 290-302.

B. Röska, **S.-H. Park***, D. Behal, K.-U. Hess, A. Günther, G. Benka, Ch. Pfleiderer, M. Hoelzel, T. Kimura, *Determination of the hydrogen-bond network and the ferrimagnetic structure of a rockbridgeite-type compound, Fe²⁺Fe³⁺_{3.2}(Mn²⁺,Zn)_{0.8}(PO₄)₃(OH)_{4.2}(HOH)_{0.8}*, J. Phys.: Condens. Matter 30 (2018) 235401(12pp).

B. Röska, I. Akter, M. Hoelzel, **S.-H. Park***, *Na⁺/Li⁺-ionic conductivity in Fe₂Na₂K[Li₃Si₁₂O₃₀]*, J. Solid St. Chem. 264 (2018) 98-107.

B. Röska, **S.-H. Park***, Y. Yoshimori, K. Kimura, T. Kimura, *Anomalous dielectric response of short hydrogen bonds under pressure: The case of (Mn,Fe)²⁺AlPO₄(OH)₂H₂O*, J. Phys.: Condens. Matter 29 (2017) 365401(5pp).

S.-H. Park*, C.J. Chucholowski, L. Garcia B. Lara, M. Hoelzel, C. Paulmann, *“Investigation of a new willemite-type compound, (Li, Na, H)_{0.16}Zn_{1.92}SiO₄”*, J. Solid St. Chem. 200 (2013), 328-340.

S.-H. Park*, J.B. Parise, M.E. Franke, T. Seydel, C. Paulmann *“Lithium dynamics in the zeolite-like lithosilicate RUB-29 and its high-temperature structure after dehydration (Cs₁₄Li₄₂Si₇₂O₁₇₂)”*, Microporous & Mesoporous Materials, 108 (2008), 1-12.

S.-H. Park*, A. Senyshyn, C. Paulmann, *“Increase of ionic conductivity in the microporous lithosilicate RUB-29 by Na-ion exchange processes”*, J. Solid St. Chem. 180 (2007), 3366-3380.

S.-H. Park*, M. Hoelzel, H. Boysen, E. Schmidbauer, *“Lithium conductivity in a Li-bearing milarite-type mineral, sogdianite”*, J. Solid St. Chem. 180 (2007), 1306-1317.

Y.J. Lee, **S.-H. Park**, Ch. Eng, J.P. Parise, C.P. Grey, “Cation ordering and electrochemical properties of the cathode materials $\text{LiZn}_x\text{Mn}_{2-x}\text{O}_4$; a ^6Li magic angle spinning NMR spectroscopy and diffraction study”, Chem. Mater. 14 (2002), 194 - 205.

S.-H. Park*, J.B. Parise, H. Gies, H. Liu, C.P. Grey, B.H. Toby, “A new porous lithosilicate with a high ionic conductivity and ion-exchange capacity”, J. Am. Chem. Soc. V122, N44 (2000), 11023 - 11024.

Magnetic structures and multiferroics

S.-H. Park *, A. Hartl, D. Sheptyakov, M. Hoelzel, A. Arauzo, *Structural investigation into magnetic spin orders of a manganese phosphatic oxyhydroxide, $\text{Mn}_5[(\text{PO}_4)_2(\text{PO}_3(\text{OH}))_2](\text{HOH})_4$* , Symmetry, 13 (2021), 1688 (18pp), <https://doi.org/10.3390/sym13091688>.

S.-H. Park*, B. Liu, D. Behal, B. Pedersen, A. Schneidewind, *Two spin-canting textures in the antiferromagnetic phase AF1 of MnWO_4 based on the new polar atomistic model in P2*, J. Phys.: Condens. Matter 30 (2018) 135802 (6pp).

S.-H. Park*, D. Behal, B. Pedersen, *The origin of the polar symmetry in huebnerite-type multiferroics*, Physica B: Condens. Matter, 551(2018) 118-121.

B.-Q. Liu, **S.-H. Park**, A. Schneidewind, Y. Xiao, *Theoretical spin-wave dispersions in the antiferromagnetic phase AF1 of MnWO_4 based on the polar atomistic model in P2*, J. Phys.: Condens. Matter 30 (2018) 295401(8pp).

D. Behal, B. Röska, **S.-H. Park***, B. Pedersen, G. Benka, Ch. Pfleiderer, Y. Wakabayashi, T. Kimura, *The first study of antiferromagnetic eosphorite-childrenite series $(\text{Mn}_{1-x}\text{Fe}_x)\text{AlPO}_4(\text{OH})_2\text{H}_2\text{O}$ ($x = 0.5$)*, J. Magnetism & Magnetic Materials 428 (2017) 17-27.

U. Gattermann, **S.-H. Park***, C. Paulmann, G. Benka, C. Pfleiderer, *HT-solution growth and characterisation of $\text{In}_x\text{Na}_x\text{Mn}_{1-2x}\text{WO}_4$ ($0 < x \leq 0.26$)*, J. Solid St. Chem. 244 (2016) 140-150.

U. Gattermann, B. Röska, C. Paulmann, **S.-H. Park***, *Large single crystal growth of MnWO_4 -type materials from high-temperature solutions*, J. Crystal Growth, 453(2016) 40-48.

U. Gattermann, G. Benka, A. Bauer, A. Senyshyn, **S.-H. Park***, *Magnetic properties of In-doped MnWO_4 -type solid solutions: $\text{Mn}_{1-3x}\text{In}_{2x}\square_x\text{WO}_4$ [$\square$ = vacancy; $0 \leq x \leq 0.11$]*, J. Magnetism & Magnetic Materials, 398 (2016), 167-173.

S.-H. Park*, B. Mihailova, B. Pedersen, C. Paulmann, D. Behal, U. Gattermann, R. Hochleitner, *A new polar symmetry of huebnerite (MnWO_4) with ferrodistorptive domains*, J. Magnetism & Magnetic Materials, 394 (2015) 160-172.

U. Gattermann, **S.-H. Park***, M. Kaliwoda, *Synthesis and characterisation of In-doped MnWO₄-type solid-solutions: Mn_{1-3x}In_{2x}□_xWO₄ (x = 0 - 0.11)*, J. Solid St. Chem. 219 (2014) 191-200.

M. John, S. Heuss-Aßbichler, **S.-H. Park**, A. Ullrich, G. Benka, N. Petersen, D. Rettenwander, S.R. Horn, *Low-temperature synthesis of CuFeO₂ (delafossite) at 70 °C: A new process solely by precipitation and ageing*, J. Solid St. Chem. 233(2016) 390-396.

S.C. Roud, S.A. Gilder, **S.-H. Park**, *Greigite (Fe₃S₄) formation in artificial sediments via solid-state transformation of lepidocrocite*, Geochemistry, Geophysics, Geosystems, 23 (2022). e2022GC010376. <https://doi.org/10.1029/2022GC010376>

Li-containing novel structures

S.-H. Park*, H. Boysen, J. B. Parise, “*Structural disorder of a new zeolite-like lithosilicate, K_{2.6}Li_{5.4}[Li₄Si₁₆O₃₈]·4.3H₂O*”, Acta Cryst. B62 (2006), 41-51.

S.-H. Park*, H. Liu, M. Kleinsorge, C.P. Grey, B.H. Toby, J.B. Parise, “[Li-Si-O]-MFI: *A new microporous lithosilicate with the MFI topology*”, Chem. Mater. 16 (2004), 2605 – 2614

S.-H. Park*, H. Gies, B.H. Toby, J.B. Parise, “*Characterization of new microporous lithosilicate with ANA topology*”, Chem. Mater. 14 (2002), 3187 - 3196.

S.-H. Park*, M. Kleinsorge, C.P. Grey, J.B. Parise, “*Study of ion-exchanged microporous lithosilicate Na-RUB-29 using synchrotron X-ray single-crystal diffraction and ⁶Li MAS NMR spectroscopy*”, J. Solid St. Chem. 167 (2002), 310 - 323.

S.-H. Park, P. Daniels, H. Gies, “*RUB-23: a new microporous lithosilicate containing spiro-5 building units*” Microporous & Mesoporous Materials, 37 (2000), 129 - 143.

Characterization of H-containing structures

A. Bieniok, U. Brendel, **S.-H. Park**, *Temperature and humidity dependent investigations on paulingite*, Z. Kristallographie, 230(4) (2015), 213-222.

R. Hochleitner, K.T. Fehr, M. Kaliwoda, A. Günther, Ch. Rewitzer, W.W. Schmahl, **S.-H. Park**, *Hydroniumpharmacoalumite, (H₃O)Al₄[(OH)₄(AsO₄)₃].4-5 H₂O, a new mineral of the pharmacosiderite supergroup from Rodalquilar, Spain*, N. Jb. Miner. Abh. (J. Min. Geochem.) 192/2 (2015), 169-176.

D. Behal, B. Röska, U. Gattermann, A. Reul, **S.-H. Park***, *Structure analysis of a Mn-doped willemite-type compound, H_{0.12}(Zn_{1.89(3)}Mn_{0.05(1)}□_{0.06})Si_{1.00(1)}O₄*, J. Solid St. Chem. 210 (2014), 144-149.

C.C. Pavel, **S.-H. Park**, A. Dreier, B. Tesche, W. Schmidt, “*Structural defects induced in ETS-10 by post-synthesis treatment with H₂O₂ solution*”, Chem. Mater. 18 (2006), 3813-3820.

Optical crystals

V.Z. Vuksan, Y. Cheng, **S.-H. Park***, E.V. Sturm, K. K. Gméling, L. Szentmiklósi, *Second-harmonic generation effect enhanced by Li substitution for Na in Li₁(Li_xNa_{5-x})Mo₉O₃₀*, J. Solid St. Chem. 339 (2024) 124920 (12pp).
<https://doi.org/10.1016/j.jssc.2024.124920>

V.P. Solntsev, T.B. Bekker, A.V. Davydov, A.P. Yelisseyev, S.V. Rashchenko, A.E. Kokh, V.D. Grigorieva, **S.-H. Park**, *Optical and Magnetic Properties of CU-Containing Borates with 'Anti-Zeolite' Structure*, J. Phys. Chem. C, V123 (7) (2019), 4469-4474.

T.B. Bekker, V. P. Solntsev, S. V. Rashchenko, A. P. Yelisseyev, A.V. Davydov, A. A. Kragzhda, A. E. Kokh, A. B. Kuznetsov, **S.-H. Park**, *On the nature of color of the new borates with the 'anti-zeolite' structure*, Inorganic Chemistry, Inorg. Chem.57(5) (2018) 2744-2751.

Characterization of fuel materials for neutron reactors

H-Y. Chiang, T. Wiss, **S.-H. Park**, O. Dieste-Blanco, W. Petry, *TEM analysis of irradiation-induced interaction layers in coated UMo/X/Al trilayer systems (X= Ti, Nb, Zr, Mo)*, J. Nucl. Mater. 499 (2018) 1-9.

H-Y. Chiang, **S.-H. Park**, M. Mayer, K. Schmid, M. Balden, U. Bösenberg, R. Jungwirth, G. Falkenberg, T. Zweifel, W. Petry, *Swift heavy ion irradiation induced interactions in the UMo/X/Al trilayer system (X= Ti, Zr, Nb, and Mo)*, J. Alloys & Compounds, 626 (2015) 381-390.

H-Y. Chiang, M. Döblinger, **S.-H. Park**, L. Beck, W. Petry, *Ion beam induced spinodal decomposition and amorphization in the immiscible bilayer system UMo/Mg*, J. Nucl. Mater. 453(2014) 41-47.

R. Jungwirth, H. Palancher, C. Bertrand-Drira, A. Bonnin, C. Borca, V. Honkimaki, C. Jarousse, **S.-H. Park**, W.W. Schmahl, W. Petry, “*Microstructure of as-fabricated disperse UMo/Al(Si) samples prepared with ground and atomized powder*”, J. Nucl. Mater. 438 (2013), 246 – 260.

Zeolites and Carbonates

D. Ciceralli, M. Arslan, E. A. Yazar, C. Yücel, İ. Temizel, **S.-H. Park**, P.A. Schroeder, *Mineralogy, chemistry, and genesis of zeolitization in Eocene tuffs from the Bayburt area (NE Turkey): Constraints on alteration processes of acidic pyroclastic deposits*, J. Af. Earth Sci. 162 (2020) 103690 (pp14).

N. Schanchez-Pastor, A.M. Gigler, J.A. Cruz, **S.-H. Park**, G. Jordan, L. Fernandez-Díaz, “*Growth of Calcium Carbonate in the Presence of Cr(VI)*”, *Crystal Growth Design*, 11(7) (2011), 3081–3089.

N. Sánchez-Pastor, J.A. Cruz, A.M. Giegler, **S.-H. Park**, G. Jordan, W. Schmahl, L. Fernández-Díaz, *Microprobe and Raman Investigation of the Zoning in Synthetic Ca (CO₃, CrO₄) Crystals*, *Revista de la Sociedad Espanola de Mineralogia*, Band 13(2010), 197-198.

Characterization of microporous materials in proceedings bands peer-reviewed

S.-H. Park, R.-W. Grosse-Kunstleve, H. Graetsch, H. Gies, “*The thermal expansion of the zeolites MFI, AFI, DOH, DDR, and MTN in their calcined and as synthesized forms*”, H. Chon, S.-K. Ihm and Y.S. Uh (Editors), *Progress in Zeolite and Microporous Materials, Studies in Surface Science and Catalysis*, Elsevier Science, Vol. 105 (1997), 1989 - 1994.

S.-H. Park*, J.B. Parise, H. Gies, “*Optimized synthesis and structural properties of lithosilicate RUB-29*”, *Studies in Surface Science and Catalysis* 135, Paper 09-O-05, Ed.: A. Galarneau, F. Di Renzo, F. Fajula, J. Vedrine, Elsevier, 2001.

S.-H. Park, W. Schmidt, A. Dreier, B. Tesche, “*Investigation on the generation of supermicropores in the microporous titanosilicate ETS-10*”, in: 13th European Microscopy Congress, University of Antwerp, Belgium, August 22-27, *Proceedings Vol. II.*, 531-532, Ed: G. van Tendeloo, Belgian Society of Microscopy, Liège, 2004.

Further topics

I. Kappel, S. Böcklein, **S.-H. Park**, M. Wharmby, G. Mestl, W.W. Schmahl, *Crystal Imperfections of Industrial Vanadium Phosphorous Oxide Catalysts*, *Catalysts* 11(11), 1325 (2021), pp15.

Proceedings

(^O: oral presentation, ^P: poster, ^C: collaboration)

^O18th European Powder Diffraction Conference (EPDIC18), 30.08.-02.09.2024, Padua, Italy, *New magnetic structures of Al-bearing lithium ferrite as potential RT multiferroics*, **S.-H. Park**.

^P34th European Crystallographic Meeting (ECM34), 26.-30.08.2024, Padua, Italy, *Second-harmonic generation effect enhanced by Li⁺ substitution for Na⁺ in (Li_xNa_{6-x})Mo₉O₃₀*, **S.-H. Park**, V. Vuksan, Y. Cheng, A. Buyan Arivjikh, M. Kurashvili, K. Gmélíng, L. Szentmiklósi.

^{O30th} Deutsche Kristallographie-Tagung, 14.03.-17.03.2022, München, Germany, *Magnetic spin dynamics in Mn-hureaulite*, S.-H. Park and A. Arauzo

^{P29th} QENS/WINS 2021 (online), 17.05.-21.05.2021, *Proton dynamics in the hureaulite-type phosphatic oxyhydroxide $Mn_5[(PO_4)_2(PO_3OH)_2(HOH)_4]$* , Anna Hartl, Matthias Krack, Peter Lunkenheimer, Arthur Schulz, Denis Cheptiakov, Markus Appel, Carsten Paulmann, Fanni Jurányi, SoHyun Park.

^{O29th} Deutsche Kristallographie-Tagung, 15.03.-18.03.2021, DESY at Hamburg, Germany, *The complexity of magnetic spin orders and dynamically disordered hydrogen bond networks in $Mn_5[(PO_4)_2(PO_3OH)_2(HOH)_4]$* , S.-H. Park.

^OEuropean Conference on Neutron Scattering, 30.06.-05.06.2019, St. Petersburg, Russia, *Proton dynamic behaviour in hydrogen bond networks in oxyhydroxides*, S.-H. Park.

^{O25th} Deutsche Kristallographie-Tagung, 05.03.-07.03.2018, Essen, Germany, *Magnetic properties and proton dynamics in phosphatic oxyhydroxides*, S.-H. Park.

^OInternational conference on neutron scattering, 09.07-13.07.2017, Daejeon, South-Korea, *The origin of polar symmetry in huebnerite-type ($MnWO_4$) multiferroics*, S.-H. Park, et al.

^P International conference on neutron scattering, 09.07-13.07.2017, Daejeon, South-Korea, *Anomalous dielectric response of short hydrogen bonds under pressure: The case of $(Mn_{0.5}Fe_{0.5})^{2+}AlPO_4(OH)_2H_2O$* , B. Röska, S.-H. Park, B. Pedersen, Y. Yoshimori, K. Kimura, T. Kimura.

^{P23th} Deutsche Kristallographie-Tagung, 14.03-17.03.2016, Stuttgart, Germany, *Structural investigation and large single crystal growth of $(In,Na):MnWO_4$* , U. Gattermann, S.-H. Park, C. Paulmann.

^{O22th} Deutsche Kristallographie-Tagung, 16.03-19.03.2015, Göttingen, Germany, *Structural changes of In- and Na-doped $MnWO_4$ and their magnetic behaviours*, S.-H. Park, U. Gattermann, D. Behal.

^PGordon Research Conferences: Multiferroic & Magnetoelectric Materials, August 10-15. 2014, University of New England in Biddeford, ME, United States, *Reconsideration of the crystal structure of huebnerite ($MnWO_4$): a naturally occurring multiferroic material with out-of-plane domains*, S.-H. Park, D. Behal, U. Gattermann, B. Pedersen, B. Mihailova, C. Paulmann.

^{P21th} Deutsche Kristallographie-Tagung, 19.03-22.03.2013, Freiberg, Germany, *Effect of domains on a multiferroic mineral, huebnerite ($MnWO_4$)*, S.-H. Park, D. Behal, U. Gattermann, B. Pedersen, C. Paulmann.

^{P20th} Deutsche Kristallographie-Tagung, 12.03-16.03.2012, München, Germany, *Synthesis of large single crystal of sugilite*, S.-H. Park and J. Heimbilger.

^C T. Drobek, J. Strobel, S. Park, K.L. Phuong, W. Altermann, H. Lemmel, P. Lindner, R.W. Stark, *Small angle neutron scattering analysis of porous reservoir rocks*, Soc. Core Anlayssts, Vol. 23, No. 1 (2011), SCA2011-48.

^O19th Deutsche Kristallographie-Tagung, September, 2011, Salzburg, Austria, *New Li-Na-ionic conductor materials: (Li, Na)_{2x}[Zn_{2-x}SiO₄]*, S.-H. Park, C.J. Pietsch, L. Garcia B. Lara.

^O19th Deutsche Kristallographie-Tagung, September, 2011, Salzburg, Austria, *In search of Li-Na-ionic conductors*, S.-H. Park, J. Labbe, I.F. Akter, C.J. Pietsch, L.Garcia B. Lara.

^ONeutrons for Global Energy Solutions 2010, Bonn, Germany, September 26-29, 2010, *New synthetic Li/Na-ionic conductor materials for development of monolithic solid-state electric cell*, S.-H. Park, L. Garcia B. Lara, I. F. Akter, J. Labbé, C.J. Pietsch.

^P26th European Crystallographic Meeting, 29.08-02.09.2010, Darmstadt, Germany, *New synthetic cyclosilicates as potential Li/Na-ionic conductors*, S.-H. Park, C.J. Pietsch, I.F. Akter, J. Labbe, L. Garcia B. Lara, C. Paulmann, A. Senyshyn, M. Hoelzel.

^ODeutsche Tagung für Forschung mit Synchrotronstrahlung, Neutronen und Ionenstrahlen, Freie Universität Berlin, 24.-26 Februar 2010, *Trace of conducting cations in cyclosilicates using neutron and synchrotron X-Ray diffraction*, S.-H. Park, I. Kaiser-Bischoff, C. Paulmann.

^O17th Deutsche Kristallographie-Tagung, March 9-12. 2009, Hannover, Germany, *Ionenleitfähigkeit in Sechsering- und Sechserkette-haltigen Lithosilicaten*, S.-H. Park, B. Pedersen, M. Meven, H. Krüger.

^O16th Deutsche Kristallographie-Tagung, March 3-6. 2008, Erlangen, Germany, *Microporous lithosilicates and further Li-bearing minerals als potential Li-ionic conductors*, S.-H. Park.

^PIUCr, 2008, Osaka, *Ionic conductivity in Li-bearing milarite-group members*, Acta Cryst. A64 (2008), Supplementary, C532, S.-H. Park

^P16th Deutsche Kristallographie-Tagung, March 3-6. 2008, Erlangen, Germany, *Ionic conductivity in Li-bearing milarite-group members: sugilite and sogdiantite*, S.-H. Park.

^P16th Deutsche Kristallographie-Tagung, March 3-6. 2008, Erlangen, Germany, *Structure refinement and ionic conductivity in kunzite (pink spodumen)*, S. Gruber, S.-H. Park.

^O15th Deutsche Kristallographie-Tagung, March 5-8. 2007, Bremen, Germany, *Structural modification in low-temperature form of a microporous lithosilicate Cs₁₄Li₄₂Si₇₂O₁₇₂*, S.-H. Park, F. Frey, C. Paulmann.

^O14th Deutsche Kristallographie-Tagung, April 3-5. 2006, Freiburg, Germany, *Dynamic and static disorder of lithium in the microporous lithosilicate RUB-29 (Cs₁₄Li₄₂Si₇₂O₁₇₂·14H₂O)*, S.-H. Park, J.B. Parise, H. Boysen, C. Paulmann.

^P14th Deutsche Kristallographie-Tagung, April 3-5. 2006, Freiburg, Germany, *Rietveld analysis with VT neutron powder diffraction data of sogdianite*, S.-H. Park, H. Boysen, M. Hoelzel.

^O14th Deutsche Kristallographie-Tagung, April 3-5. 2006, Freiburg, Germany, *Structural defects in the zeolite-like lithosilicate RUB-30*, S.-H. Park, H. Boysen, C. Paulmann.

^O18th Deutsche Zeolith-Tagung, March 3-5. 2006, Hannover, Germany, *State-of-the-art of the study on zeolite-like lithosilicates*, S.-H. Park.

^PGordon Conferences: Electrochemistry, February 12-17. 2006, Buellton, CA, USA, *Li-cationic conductivity in microporous lithosilicates*, S.-H. Park.

^PCatalytic Processes on Advanced Micro- and mesoporous Materials, September 2-5, 2005, Nessebar, Bulgaria, *Creation of porosity on several length scales in the titanosilicate catalyst ETS-10*, C.C. Pavel, S.-H. Park, W. Schmidt.

^PCOPS VII, May 2005, Aix-en-Provence, France, *Investigation on factors controlling the larger pore formation in the titanosilicate ETS-10*, C.C. Pavel, S.-H. Park, W. Schmidt.

^PEMC 2004, Antwerpen, Belgium, *Investigation on the generation of supermicropores in the microporous titanosilicate ETS-10*, S.-H. Park, W. Schmidt, A. Dreier, B. Tesche.

^P17th Deutsche Zeolith-Tagung, March 2.-4. 2005, Gießen, Germany, *The superstructure of RUB-30: A synthetic zeolite-like lithosilicate*, S.-H. Park, H. Boysen.

^O13th Gemeinsame Jahrestagung der DGK, DGKK und NKK-ÖAW, Feb. 28.- Mar.04. 2005, Köln, Germany, *The superstructure of RUB-30: A synthetic zeolite-like potassiumlithosilicate*, S.-H. Park, H. Boysen.

^O12th Deutsche Kristallographie-Tagung, March 15.-19. 2004, Jena, Germany, *Creation of supermicropores in the microporous titanosilicate ETS-10*, S.-H. Park, W. Schmidt, B. Tesche, A. Dreier, E. Löffler.

^O16th Deutsche Zeolith-Tagung, March 3.-5. 2004, Dresden, Germany, *Impedance Spectroscopy on Ion-Exchanged Lithosilicate RUB-29*, M. E. Franke, L. Rodriguez-Gonzalez, U. Simon, and S.-H. Park.

^P15th Deutsche Zeolith-Tagung, March 5.-7. 2003, Kaiserslautern, Germany, *Investigation on the adsorbate-framework interaction in ETS-10 using ²⁹Si MAS NMR and XRD methods*, B. Zibrowius, S.-H. Park, C. Weidenthaler, W. Schmidt.

^{P15th} Deutsche Zeolith-Tagung, March 5.-7. 2003, Kaiserslautern, Germany, *Lithium-cationic conductivity of a microporous lithosilicate RUB-29*, S.-H. Park, J.B. Parise, B. Zibrowius, M.E. Franke.

^{P14th} Deutsche Zeolith-Tagung, March 6-8. 2002, Frankfurt am Main, Germany, *Study of ion-exchanged microporous lithosilicate Na-RUB-29 using synchrotron X-ray single crystal diffraction and ⁶Li MAS NMR spectroscopy*, S.-H. Park, M. Kleinsorge, C.P. Grey, J.B. Parise.

^PNECZA (North East Corridor Zeolite Association conference) conference, December 7, 2001, Philadelphia, U.S.A., *Can we visualize framework Li cations using IR and solid-state NMR spectroscopy?* S.-H. Park, M. Kleinsorge, C.P. Grey, J.B. Parise.

^{P13th} International Zeolite Conference, July 8-13. 2001, Montpellier, France, *Optimized synthesis and structural properties of lithosilicate RUB-29*, S.-H. Park, J.B. Parise, H. Gies.

^{O13th} International Zeolite Conference, July 8.-13. 2001, Montpellier, France, *Characterization of A new member of the MFI family: [Li-Si-O]-MFI*, S.-H. Park, M. Kleinsorge, H. Liu, C. P. Grey, J. B. Parise.

^PNECZA (North East Corridor Zeolite Association) conference, December 8. 2000, Philadelphia, U.S.A., *Cs₁₄Li₂₄[Li₁₈Si₇₂O₁₇₂].14H₂O: A New microporous Lithosilicate with a Superionic Conductivity and High Ion-exchange Capacity*, S.-H. Park, J.B. Parise, H. Gies, H. Liu, C.P. Grey, B.H. Toby.

^{P2000} MRS Fall Meeting (Material Research Society), November 27.- December 01. 2000, Boston, U.S.A., *A New Porous Lithosilicate with a High Ionic Conductivity*, S.-H. Park, H. Liu, C.P. Grey, J. B. Parise.

^{O12th} Deutsche Zeolith-Tagung, March 1.-3. 2000, Garching-München, Germany, *Investigation of Porous Lithosilicates Showing New Topologies*, S.-H. Park, H. Gies, B.H. Toby, J.B. Parise.

^PGordon Conference on Zeolitic and Layered Materials, June 13.-18. 1999, Plymouth-NY, U.S.A., *Characterisation of new porous lithosilicates*, S.-H. Park, H. Gies, B.H. Toby, J.B. Parise.

^{P13th} International Zeolite Conference, July 1998, Baltimore, U.S.A., *RUB-23: A new lithosilicate containing spiro-5 building units*, S.-H. Park, P. Daniels, H. Gies.

^{P10th} Deutsche Zeolith-Tagung, March 1998, Bremen, Germany, *RUB-23: A new lithosilicate containing spiro-5 building unit*, S.-H. Park, P. Daniels, H. Gies.

^{P11th} International Zeolite Conference, August 1995, Seoul, Korea, *The thermal expansion of the zeolites MFI, AFI, DDR, DOH, and MTN in their calcined and as synthesized forms*, S. H. Park, R.-W. Große-Kunstleve, H. Graetsch, H. Gies.