

List of Publications / original papers

(September 2013)

1. G.AMTHAUER (1970): Untersuchungen an Nitrierungsschichten auf Eisen. Dipl.-Arbeit, Universität Bonn.
2. G.AMTHAUER, M.GEBHARDT, A.NEUHAUS (1972) Phasen und Epitaxien in gasnitrierten polykristallinen Fe-Bleichen und einkristallinen Fe-Folien. *Kristall und Technik* 7: 141-158.
3. G.AMTHAUER, P.BRENNEIS, W.GRIGEL, F.ROST (1972) Über orientierte Granatentmischungen in Pyroxenen bei der metamorphen Genese granatführender Ultramafitite des Ultentales, Südtirol. *Berichte der Deutschen Gesellschaft für Geologische Wissenschaften B. Mineralogie und Lagerstättenforschung* 16: 227-240.
4. G.AMTHAUER, W.KURTZ, F.ROST, H.SCHLOEMER (1974) Chemismus und Genese des Andradits aus dem Serpentin des Val Malenco. *Schweizer Mineralogische und Petrographische Mitteilungen* 54: 691-706.
5. G.AMTHAUER (1974): Zur Kristallchemie chromhaltiger Granate. Doktor-Arbeit, Universität Saarbrücken.
6. F.ROST, E.BEERMANN, G.AMTHAUER (1975) Chemical investigation of pyrope garnets in the Stockdale kimberlite intrusion Riley Country, Kansas. *American Mineralogist* 60: 675-680.
7. G.AMTHAUER (1975) Zur Kristallchemie und Farbe grüner und brauner Grossulare aus Tansania. *Zeitschrift der Deutschen Gemmologischen Gesellschaft* 24: 61-72.
8. G.Amthauer (1976) Kristallchemie und Farbe chromhaltiger Granate. *Neues Jahrbuch für Mineralogie Abhandlungen* 126: 158-186.
9. G.AMTHAUER, H.ANNERSTEN, S.S.HAFNER (1976) The Mössbauer spectrum of ^{57}Fe in silicate garnets. *Zeitschrift für Kristallographie* 143: 14-55.
10. G.AMTHAUER, S.S.HAFNER, J.PEBLER, K.SCHMIDT (1976) A ^{57}Fe Mössbauer study of the high pressure phase transition in the system $\text{V}_{1-x}\text{Fe}_x\text{O}_2$ ($x = 0.024$). *Journal de Physique* 37 C6, 599-601.
11. G.AMTHAUER, H.ANNERSTEN, S.S.HAFNER (1977) The Mössbauer spectrum of ^{57}Fe in Titanium-bearing andradites. *Physics and Chemistry of Minerals* 2: 399-414.
12. G.AMTHAUER, D.EPPELSHEIMER (1977): Tin-antimony sulfosalts. In: "Ore Minerals" von G.H. Moh. *Neues Jahrbuch für Mineralogie Abhandlungen* 131: 27-30.
13. G.AMTHAUER, J.FENNER, S.S.HAFNER, W.B.HOLZAPFEL, R.KELLER (1979): Effect of pressure on resistivity and Mössbauer spectra of the mixed valence compound Sn_2S_3 . *Journal of Chemical Physics* 70: 4837-4842.
14. P.KÖHLER, G.AMTHAUER (1979): The ligand-field spectrum of Fe^{3+} in garnets. *Journal of Solid State Chemistry* 28: 99-114.
15. G.AMTHAUER, J.R.MCIVER, E.A.VILJOEN (1979) ^{57}Fe and ^{119}Sn Mössbauer studies of natural Tin-bearing garnets. *Physics and Chemistry of Minerals* 4: 235-244.
16. G.AMTHAUER (1980) ^{57}Fe Mössbauer study of babingtonite, $\text{Ca}_2(\text{Fe}^{2+}, \text{Mg}, \text{Mn})\text{Fe}^{3+}\text{Si}_5\text{O}_{14}(\text{OH})$. *American Mineralogist* 65: 157-162.
17. G.AMTHAUER, M.GRODZICKI, S.S.HAFNER, V.R.MARATHE, A.X.TRAUTWEIN (1980) Calculation of hyperfine parameters in some garnets. *Journal de Physique* 41 C1: 291-292.
18. G.AMTHAUER, B.J.EVANS (1980) The electronic structure of ilvaite and the pressure and temperature dependence of its ^{57}Fe Mössbauer spectrum. *Journal of Physics and Chemistry of Solids* 41: 985-1001.
19. G.AMTHAUER, K.LANGER, M.SCHLIESTEDT (1980) Thermally activated electron delocalization in deerite. *Physics and Chemistry of Minerals* 6: 19-30.
20. G.AMTHAUER (1980) Spektroskopische Untersuchungen gemischter Valenzzustände des Eisens in Mineralien. Habilitations-Arbeit, Universität Marburg.
21. G.AMTHAUER (1982) High pressure ^{57}Fe Mössbauer studies on minerals. In: High-pressure Researches in Geosciences (editor: W.Schreyer) E.Schweizerbart'sche Verlagsbuchhandlung (Nägele und Obermiller) Stuttgart: pp 269-292.
22. K.SCHMETZER, G.AMTHAUER, V.STÄHLE, O.MEDENBACH (1982) Metaköttigit, $(\text{Zn}, \text{Fe}^{3+})(\text{Zn}, \text{Fe}^{3+}, \text{Fe}^{2+})_2(\text{AsO}_4)_2 \cdot 8(\text{H}_2\text{O}, \text{OH})$, ein neues Mineral aus Mapimi, Mexiko. *Neues Jahrbuch für Mineralogie Monatshefte*: 506-518.
23. G.AMTHAUER, J.PEBLER, R.SOBOTT (1982) The Mössbauer spectrum of ^{121}Sb in Ti_3SbS_4 . In "Applied experimental Ore petrology" von G.H.Moh. *Neues Jahrbuch für Mineralogie Abhandlungen* 144: 329-331.

24. G.AMTHAUER, V.GÜNZLER, S.S.HAFNER, D.REINEN (1982) The distribution of Fe^{3+} and Ga^{3+} between octahedral and tetrahedral sites in garnets, $\text{Y}_3(\text{Fe,Ga})_5\text{O}_{12}$, at different temperatures. *Zeitschrift für Kristallographie* **161**: 167-186.
25. G.Amthauer (1982) Gemischte Valenzzustände des Eisens in Mineralen. *Fortschritte der Mineralogie* **60**: 119-154.
26. G.AMTHAUER, K.BENTE (1983) Mixed-valent iron in synthetic rasvumite, KFe_2S_3 . *Naturwissenschaften* **70**: 146-147.
27. G.PIEPER, H.FUESS, J.TÖPEL-SCHADT, G.AMTHAUER (1983) Die Bestimmung der Kationenverteilung in den natürlichen Granaten Pyrop und Hessonit durch Neutronenbeugung. *Neues Jahrbuch der Mineralogie Abhandlungen* **147**: 147-159.
28. F.J.LITTERST, G.AMTHAUER (1984) Electron delocalization in ilvaite, a reinterpretation of its ^{57}Fe Mössbauer spectrum. *Physics and Chemistry of Minerals* **10**: 250-255.
29. R.OSTERTAG, G.AMTHAUER, H.RAGER, H.Y.MCSWEEN (1984) Fe^{3+} in shocked olivine crystals of the ALPHA 77005 meteorite. *Earth and Planetary Science Letters* **67**: 162-166.
30. H.RAGER, W.ZABINSKI, G.AMTHAUER (1984) EPR study of South African grossularites. *Neues Jahrbuch für Mineralogie Monatshefte*: 433-443.
31. G.STEFFEN, F.SEIFERT, G.AMTHAUER (1984) Ferric iron in sapphirine: a Mössbauer spectroscopic study. *American Mineralogist* **69**: 339-348.
32. G.AMTHAUER, G.R.ROSSMAN (1984) Mixed valence of iron in minerals with cation clusters. *Physics and Chemistry of Minerals* **11**: 37-51.
33. G.AMTHAUER (1986) Crystal chemistry and valencies of iron, antimony, and tin in franckeites. In "Current ore petrology: microscopy, genesis, analyses, and experimentation" von G.H.Moh. *Neues Jahrbuch für Mineralogie Abhandlungen* **153**: 272-278.
34. O.BALLET, G.AMTHAUER (1986) Room temperature Mössbauer study of the EFG-tensor at the iron sites in sheet silicates. *Journal de Physique C Solid State Physics* **19**: 7099-7112.
35. W.JOSWIG, G.AMTHAUER, Y.TAKEUCHI (1986) A neutron diffraction and Mössbauer spectroscopic study of clintonite. *American Mineralogist* **71**: 1194-1197.
36. B.GHAZI-BAYAT, G.AMTHAUER, K.SCHÜRMANN, E.HELLNER (1987) Synthesis and characterization of the mixed valent iron silicate ilvaite, $\text{CaFe}_3(\text{Si}_2\text{O}_7/\text{O}/(\text{OH}))$. *Mineralogy and Petrology* **37**: 97-108.
37. E.BAUM, M.BEHRUZI, W.TREUTMANN, W.LOTTERMOSER, G.AMTHAUER (1988) Structural and magnetic properties of the clinopyroxenes $\text{NaFeSi}_2\text{O}_6$ and $\text{LiFeSi}_2\text{O}_6$. *Zeitschrift für Kristallographie* **183**: 273-284.
38. I.ABS-WURMBACH, G.AMTHAUER (1988) Crystal chemistry of iron in natural and in synthetic braunit $\text{Mn}^{2+}(\text{Mn}^{3+}, \text{Fe}^{3+})_6\text{O}_8/\text{SiO}_4$. *Zeitschrift für Kristallographie* **184**: 13-20.
39. T.ARMBRUSTER, C.BÜHLER, S.GRAESER, H.A.STALDER, G.AMTHAUER (1988) Cervandonite-(Ce), $(\text{Ce}, \text{Nd}, \text{La})(\text{Fe}^{3+}, \text{Fe}^{2+}, \text{Ti}^{4+}, \text{Al})_3\text{SiAs}(\text{Si}, \text{As})\text{O}_{13}$ a new alpine fissure mineral. *Schweizer Mineralogische und Petrographische Mitteilungen* **68**: 125-132.
40. K.FORCHER, W.LOTTERMOSER, G.AMTHAUER (1989) Mössbauer study of raguinite, TlFeS_2 , and thalcusite, $\text{Cu}_3\text{Ti}_2\text{FeS}_4$. In "Ore minerals: an experimental approach- and new observations" von G.H.Moh. *Neues Jahrbuch für Mineralogie Abhandlungen* **160**: 25-28.
41. K.SCHMETZER, C.HAXEL, G.AMTHAUER (1989) Colour of natural spinels, gahnospinel and gahnites. *Neues Jahrbuch für Mineralogie Abhandlungen* **160**: 159-180.
42. B.GHAZI-BAYAT, G.AMTHAUER, E.HELLNER (1989) Synthesis and characterization of Mn-bearing ilvaite $\text{CaFe}_{2-x}\text{Mn}_x\text{Fe}^{3+}(\text{Si}_2\text{O}_6/\text{O}/(\text{OH}))$. *Mineralogy and Petrology* **40**: 101-109.
43. T.KRATZ, H.FUESS, W.LOTTERMOSER, W.TREUTMANN, G.AMTHAUER (1989) Magnetische Messungen und Mößbauerspektroskopie an Sulfiden von 3d-Elementen. *Zeitschrift für Kristallographie* **186**: 169-172.
44. M.K.PAVICEVIC, G.AMTHAUER, A.EL GORESY (1989) X-ray L-emission spectra of iron in silicate garnets. *Journal of the Serbian Chemical Society* **54**: 359-371.
45. G.AMTHAUER, K.KATZ-LEHNERT, D.LATTARD, M.OKRUSCH, E.WOERMANN (1989) Crystal chemistry of natural Mn^{3+} -bearing calderite andradite garnets from Otjosondou, SWA/Namibia. *Zeitschrift für Kristallographie* **189**: 43-56.
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47. E. MAKOVICKY, K. FORCHER, W. LOTTERMOSER, G. AMTHAUER (1990) The role of Fe^{2+} and Fe^{3+} in synthetic Fe-substituted tetrahedrite. *Mineralogy and Petrology* **43**: 163-171.
48. G. AMTHAUER, E. DACHS, F. FINGER, G. MOH, F. WOLF (1991) Inter- and intracrystalline cation distribution in minerals of rocks of the continental deep drilling project (KTB pilote hole) at Erbsdorf, FRG. In: KTB Report 91-I (editors: R. Emmermann, J. Lauterjung) E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart: pp 214-223.
49. M. KUNZ, TH. ARMBRUSTER, G.A. LAGER, A.J. SCHULTZ, R.J. GOYETTE, W. LOTTERMOSER, G. AMTHAUER (1991) Fe, Ti Ordering and Octahedral Distortions in Acentric Neptunite: temperature dependent X-ray and neutron structure refinements and Mössbauer spectroscopy. *Physics and Chemistry of Minerals* **18**: 199-213.
50. B. GHAZI-BAYAT, M. BEHRUZI, F.J. LITTERST, W. LOTTERMOSER, G. AMTHAUER (1992) Crystallographic phase transition and valence fluctuation in synthetic Mn-bearing ilvaite $\text{CaFe}^{2+}_{2-x}\text{Mn}_x\text{Fe}^{3+}[\text{Si}_2\text{O}_7/\text{O}/(\text{OH})]$. *Physics and Chemistry of Minerals* **18**: 491-496.
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53. G. AMTHAUER, M.K. PAVICEVIC, M. BERNROIDER, D. TIMOTIJEVIC (1993) Soft X-ray spectra of iron in silicates. *Institut of Physics Conference Series Nr. 130*: 87-90.
54. G. REDHAMMER, A. BERAN, E. DACHS, G. AMTHAUER (1993) A Mössbauer and X-ray diffraction study of annites synthesized at different oxygen fugacities and crystal chemical implications. *Physics and Chemistry of Minerals* **20**: 382-394.
55. B. GHAZI-BAYAT, G. AMTHAUER, H. ABSBAHS (1993) High Pressure X-ray Diffraction Study of Ilvaite $\text{CaFe}^{2+}_2\text{Fe}^{3+}[\text{Si}_2\text{O}_7/\text{O}/(\text{OH})]$. *Physics and Chemistry of Minerals*, **20**: 402-406.
56. M. BERNROIDER, G. AMTHAUER (1994) The optical absorption spectrum of lorandite, TlAsS_2 . *Neues Jahrbuch für Mineralogie Abhandlungen* **167**: 339-343.
57. R. NITSCHKE, G. TIPPELT, G. AMTHAUER (1994) Kinetics and thermodynamics of intercrystalline Fe-Ga-distribution in $\text{Y}_3(\text{Fe,Ga})_5\text{O}_{12}$. *Journal of Material Science* **29**: 2903-2910.
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59. G. AMTHAUER, F.C. HAWTHORNE, E. POLSHIN (1995) Iron-containing minerals, ores and glasses. In: *Advanced Mineralogy* **3** (editor: A.S. Marfunin): pp 74-83.
60. W. LOTTERMOSER, K. FORCHER, G. AMTHAUER, H. FUESS (1995) Powder- and single crystal Mössbauer spectroscopy on synthetic fayalite. *Physics and Chemistry of Minerals* **22**: 259-267.
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63. G. AMTHAUER (1996) Ligand field theory and inter- and intracrystalline cation distribution of transition elements in mineral and related inorganic compounds. *Physics and Chemistry of Minerals* **23**: 276-283.
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 82. M.GRODZICKI, S.HEUSS-ASSBICHLER, G.AMTHAUER (2001) Mössbauer investigations and molecular orbital calculations on epidote. *Physics and Chemistry of Minerals* **28**: 675-681.
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91. M.K.PAVICEVIC, E.M.WILD, G.AMTHAUER, M.BERGER, B.BOEVI, W.KUSCHERA, A.PRILLER, T.PROHASKA, I.STEFFAN (2004) AMS measurements of ^{26}Al in quartz to assess the cosmic ray background for the geochemical solar neutrino experiment LOREX. *Nuclear Instruments and Methods in Physics Research B* 223-224: 660-667
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93. G.J.REDHAMMER, G.TIPPELT, G.ROTH, G.AMTHAUER (2004) Structural variations in the brownmillerite series $\text{Ca}_2(\text{Fe}_{2-x}\text{Al}_x)\text{O}_5$: Single crystal X-ray diffraction at 298 K and high temperature X-ray powder diffraction ($298 \text{ K} \leq T \leq 1273 \text{ K}$). *American Mineralogist* 89: 405-420.
94. F.DI BENEDETTO, G.P.BERNARDINI, D.BORR, W.LOTTERMOSER, G.TIPPELT, G.AMTHAUER (2005) ^{57}Fe - and ^{119}Sn - Mössbauer study on stannite ($\text{Cu}_2\text{FeSnS}_4$) - kesterite ($\text{Cu}_2\text{ZnSnS}_4$) solid solution. *Physics and Chemistry of Minerals* 31: 683-690.
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