

Prof. Giora Kimmel

Department of Nuclear Engineering and Institutes for Applied Research, Ben-Gurion University of the Negev

PO Box 653, Bergman Campus, 5 Hashalom St., Build. N2, Room 2012, Beer Sheva 84105, Israel.

Home address: 76 Shittah St., Omer, 84965, Israel

emails: : kimmel@bgu.ac.il; gyorakimmel@gmail.com

ID 3256393

Phone: work: +972-(0)8-6461271; Home: +972-(0)8-6469075

Mobile: +972-(0)54-4910592

Fax: +972-(0)8-6909450

FAX-Mail: +972-153-8-6469075

Date and place of birth: April 10, 1939; Tel Aviv, Israel

Academic Degrees: B.Sc 1960, M.Sc 1968, D.Sc 1973 all from the Technion, Israel Institute of Technology, Haifa, Israel.

Appointments:

May 1, 2004, Institutes for Applied Research, Ben-Gurion University of the Negev.

May 1, 2002, Visiting Professor, Materials Science and Engineering ,Western Michigan University, Kalamazoo, Michigan USA,

October 1, 1991: Head of XRD Lab. at NRCN.

October 1, 1987: Assoc. Professor ,Technion, Haifa.

September 1, 1980: Head of Hot Metallurgical Laboratory at NRCN.

October 1, 1974: Visiting Senior Lecturer , Ben-Gurion University.

Teaching experience:

Elements in Materials Science, Physical Metallurgy, Elements of Crystallography, Crystallography and X-Ray Diffraction.

Research experience:

Ceramic materials. Nano-metastable and stable ceramics and nonmetal system

Metal hydrides. Powder Diffractometry. Thin films coating. Physical metallurgy. X-Ray diffraction and structure analysis. Crystal structure and alloy phases.

Actinides and lanthanides alloys. Intermetallics.

List of administrative posts

Head of X-rays diffraction laboratory at the Field of Materials Research and Developments, NRCN, Beer - Sheva, Israel. 1992-2001

Secretary of the Israeli Crystallographic Society. 1990-1991

Head of X-Rays diffraction laboratory at the Department of Materials Engineering,
Technion, Haifa. 1987-1991

Visiting appointments

One year sabbatical leave at Cornell University, Ithaca, N.Y., July 1979 - August 1980.

One year sabbatical leave at Philips Laboratory, Briarcliff Manor, N.Y., January 1985 - February 1986.

Two years sabbatical leave as a Visiting Professor at Western Michigan University, Kalamazoo, Michigan, USA, May 1, 2002-April 30, 2004.

Membership in scientific and professional associations

The Israeli Physics Society

The Israeli Society for Vacuum and Thin Films

The Israeli Society for Crystallography

International Center for Diffraction data

Publication list

1. G. Kimmel and S.Niedzwiedz, Surface phenomena during oxidation of U₃Si , *J.Nucl.Mat.*, **33**, 119-123 (1969).
2. G.Kimmel, A.Tomer.and A.Bar-Or The kinetics of U₃Si formation in cast U₃Si alloys, *J.Nucl.Mat.*, **40**, 242-248 (1971).
3. M. Rosen,Y.Gefen,G.Kimmel and H.Halwani, Transformation twins and the elastic properties of U₃Si at low temperature *Phil. Mag.* , **28**, 1007-1014 (1973)
4. G.Kimmel and A.Bar-Or, Formation and deformation of U₃Si, *Physical metallurgy of fuel elements*, Harris,-J.E.; Sykes,-E.C. (eds.), The Metal Society, pp 465-467, 1974.
5. G. Kimmel and S. Nadiv, Micro-behavior of plastic deformed U₃Si, *J.Nucl. Mat.* , **54**, 299-312 (1974).
6. G. Kimmel and S. Nadiv, Atomic positions in U₃Si, *Acta Crystallographica*, **31B**, 1351-1353 (1975).
7. G.Kimmel, E.Nehama, A.Tomer and A.Bar-Or, Color metalloraphy of U₃Si, *Microstructure Science* , **4**, 34-43 (1976).
8. U. Admon,G. Kimmel and A.Zangvil, Texture determination in polycrystalline thin films by electron diffraction electron microscopy 1976, Proc of the 6th European Congress on Electron Microscopy, I, 497-99,1976.
9. I.Schtrachman,G.Kimmel and M.P.Dariel, Interdiffusion study in the CeCo₂-Co system , *J.Less-Common.Met.*, **55**, 191-197 (1977).
10. G.Kimmel, On the U₃Si (D0c) crystallographic type, *J.Less-Common.Met.*, **59**, P83-P86 (1978).
11. G.Kimmel, U.Admon and A.Zangvil, *In-situ* observation on reversible twinning in U₃Si *Proceeding of the 9th International Congress on Electron Microscopy Toronto* , **I**, 572-573, 1978.
12. G.Kimmel and E.Nehama, Tensile ductility of U₃Si above room temperatute, *Scripta Metallurgica* , **13**, 361-365 (1979).
13. G.Kimmel and U.Admon, Detwinning and cleavage in martensitic U₃Si, *Proceeding of International Conference on Martensitic Transformations (ICOMAT-79) Cambridge*, Massachusetts, pp 727-731, June 1979.
14. H.Mintz, Z.Gavra, G.Kimmel and Z.Hadari, allotropic transition of Mg₂NiH_x, *Inorganic Chemistry* , **18**, 3595-3597 (1979).
15. G.Kimmel, B.Sharon and M.Rosen, Structure and phase stability of U₃Si at low temperatures, *Acta Crystallographica*, **36B**, 2286-2389 (1980).
16. G.Kimmel, U.Admon and A.Zangvil, Twinning in U₃Si, *J. Nucl. Mat.* , **89**, 402-404 (1980).
17. G.Kimmel, D.Dayan, A.Grill and J.Pelleg, The gallium rich side of Nd-Ga and Ce-Ga systems, *J.Less-Common.Met.*, **75**, 133-140 (1980).
18. H.Mintz, Z.Gavra,G.Kimmel and Z.Hadari, The reaction of hydrogen with magnesium alloys and magnesium intermetmetallic compounds, *J.Less-Common Met.*, **74**, 263-270 (1980).
19. U.Admon and G.Kimmel, Obtaining textural information from electron diffraction patterns of polycrystalline samples, *Proceeding of 7th European Congress on ElectMicroscopy*, pp 24-29, 1980.
20. G.Kimmel, J.Pelleg and L.S.Zevin, Intermetallic phases in the Ga rich side of the R-Ga systems (R=Rare Earth Metals), *Acta Cryst. A37* (Suplm.) C-185 (1981).

21. J.Pelleg, G.Kimmel and D.Dayan, RGa₆ (R=Rare earth atom) a common intermetallic compound of the R-Ga systems, *J.Less-Common Met.*, **81**, 33-44 (1981).
22. L. Zevin, J.Pelleg, G.Kimmel and D. Dayan, Positional and orientational ordering in La_{1-x}Ga_{2+2x} and formation of LaGa₄, *Scripta Metallurgica*, **18**, 1257-1261 (1984).
23. G.Kimmel, J.Sariel, A.Landau and M.Talianker, Deformation induced decomposition of uranium titanium martensite, *Proceeding of the 2nd Israel Materials Engineering Conference*, A. Grill and S.I. Rokhlin Editors., pp59-62, 1984.
24. G.Kimmel,D.Dayan,L.Zevin and J.Pelleg, The structure of R_{1-x}Ga_{2+2x}(0<x<.33) and its relation to RGa₆ and Ga, *Metall. Trans.*, **16A**, 167-171 (1985).
25. Z.Gavra, G.Kimmel, Y.Gefen and M.H.Mintz, Pressure-induced effects In Mg₂NiH₄, *J. Appl. Phys.*, **57**, 4548-4551 (1985).
26. D.Dayan,G.Kimmel and M.P.Dariel, Shear-like transformation in beta-stabilized U-1.5%Ga alloy; structure of the intermetallic compound U₃Ga₅, *J. Nucl. Mat.*, **135**, 40-45 (1985).
27. R.Moreh, O.Shahal and G. Kimmel, orientation of nitrate molecules in graphite-HNO₃ residue compounds, *Physical Review*, **33B**, 5717-5720 (1986).
28. J.Sariel, G.Kimmel and J.Pelleg, Evaluation of anisotropy in cast and heat treated "adjusted-uranium" , *J. Nucl.Mat.* , **140**, 288-292 (1986).
29. G.Kimmel, A.Landau, J.Sariel and U.Admon, Phase transformations in dilute U-Ti Alloys, *J. Less-Common Met.*, **121**, 483-486 (1986).
30. Landau, G.Kimmel and M. Talianker, Decomposition of as-quenched uranium-4 at.% titanium alloy, *Scripta Metallurgica*, **20** ,1313-1316 (1986).
31. W. N. Schreiner and G. Kimmel, Observed and calculated xrpds intensities for single substance specimens, *Advances in X-Ray Analysis*, **30**, 351-356 (1987).
32. R. Manory and G. Kimmel, Crystallography of TiNx films in excess of nitrogen, *Acta Crystallography*, **A43**,(suplm.) C-122 (1987).
33. G. Kimmel, High quality X-ray diffraction data using an adjustable divergence slit and thin samples, *Powder Diffraction*, **2**, 22-27 (1987).
34. R. Manory and G. Kimmel, X-ray characterization of TiN_x films having the CaF₂ structure, *Thin Solid Films*, **150**, 277-282 (1987).
35. G. Kimmel and W. N. Schreiner, Accuracy in temperature factors determination in powder diffractometry, *Australian Journal of Physics*, **41**, 719-737 (1988).
36. Raveh, G. Kimmel, U. Carmi, A. Inspector, A. Grill and R. Avni, Characteristic of R.F. plasma nitrided titanium alloys, *Surface and Coatings Technology*, **36**, 183-190 (1988).
37. G. Koren, E. Polturak, B. Fisher, D. Cohen and G. Kimmel, Highly oriented as-deposited superconducting laser ablated thin film of YBa₂Cu₃O_{7-x} on SrTiO₃, zirconia and si substrates. *Applied Phys. Let.*, **53**, 2330-2332 (1988).
38. G. Kimmel, A. Landau, Y. Levy and H. Mathias, Carburization of ductile tungsten alloys, *Israel Journal of Technology*, **24**, 337-342 (1988).
39. M. S. Dariel, S. Agam, G. Kimmel, D. Edelstein and Z. Barkai, CVD of boron as coating and matrix material, *Israel Journal of Technology*, **24**, 511-516 (1988).
40. U. Admon, M. P. Dariel, G. Kimmel, E.Grunbaum and J. C. Lodder, Irreversible magnetization reversal in some Co-based aloy thin films, *Israel Journal of Technology*, **24**, 517-521 (1988).

41. G. Kimmel, G.Shafirstein and M. Bamberger, Fast thickness measurement of thin crystalline layers by relative intensities in XRPD method, *Advances In X-Ray Analysis*, **32**, 293-302 (1988).
42. Munitz, Z. Livne and G. Kimmel irradiation-induced cracking in U-0.1 wt% Cr nuclear fuel elements, *J. Nucl. Mater.*, **161** , 216-227 (1989).
43. G. Kimmel and W. Kaplan, Tungsten-carbide coating of heavy metals, *Proceeding of the 12th Plansee Seminar, Reutte, Austria*, **C29**, 1989.
44. Landau, G.Kimmel and M. Tallianker, Deformation induced transformation in as-quenched uranium-4%Ti alloy, *Acta Metallurgica*, **37**, 953-959 (1989).
45. G. Kimmel and W. Kaplan, Enhanced range of measurable thickness of thin crystalline layers using $\theta/2\theta$ decoupled powder X-ray diffractometer, *Advances In X-Ray Analysis*, **33**, 121-127 (1989).
46. Raveh ,G. Kimmel, R. Avni and A. Grill, X-ray diffraction of plasma nitrided Ti-6Al-4V, *Advances In X-Ray Analysis*, **33**, 129-135 (1989).
47. W. Kaplan, G. Firstater, M. Fekler and G. Kimmel, Recrystallization under inhomogeneous strain distribution, *Recrystallisation '90*, TMS Publication, pp567-572, 1990.
48. Stern, U. Admon and G. Kimmel, The influence of vacuum heat treatment on uranium coating produced by magnetron sputtering, *Recrystallisation '90*, TMS Publication,pp753-758, 1990.
49. W.D. Kaplan and G. Kimmel, Order and disorder of phases in gallium rich gallium-lanthanum alloys, *Acta Cryst. (suppl.)* **A46**, c-281, (1990).
50. Kimmel and W. D. Kaplan, A new phase transition phenomenon in gallium-lanthanides, *Script. Met.* , **25**,571-574 (1991).
51. S. Arieli, G. Kimmel, S. F. Dirnfeld, M. Bamberger and B. Printz, A powder diffractometry study of γ' - phase formation, *Powder Diffraction*, **6**, 66-69 (1991).
52. Dahan, J. Sariel and G. Kimmel, A spreadsheet to treat X- ray powder diffraction, *Powder Diffraction*, **6**, 114 (1991).
53. R.K. Nkum, R. Weil, E. Muranovich, L. Benguigui and G. Kimmel, X-ray diffraction evidence for a ferroelectric phase-transition in zinc-cadmium telluride, *Materials Science and Eng.* , **9B**, 217-219 (1991).
54. D. Kaplan and G. Kimmel, Rietveld analysis and pair wise substitutional alloys, *Advances In X-Ray Diffraction*, **35A**, 63-68 (1991).
55. Dahan, G. Kimmel, J. Sariel and S. Nathan, Study of Al₄U stability by XRPD, *Materials Science Forum*, **133-136** 467-472 (1993).
56. D. Gur, G. Kimmel, and S.F. Dirnfeld ,XRPD of new intermediate phases in Gd-Ga and Nd-Ga Systems, *Materials Science Forum*, **133-136**, 469-484 (1993)
57. Landau, M. Talianker and G. Kimmel, Decomposition of gamma by bainitic reaction in U-0.6Ti-0.3V alloy, *J. of Nucl. Mat.* , **207**, 274-279 (1993).
58. .D. Goldschmidt, G.M. Reisner, Y. Direktovich, A. Knizhnik, E. Gartstein, G. Kimmel and Y. Eckstein, Internal charge-transfer in tetragonal superconductor, *Physica C*, **217**, 217-221,(1993).
59. D. Goldschmidt, G.M. Reisner, Y. Direktovich, A. Knizhnik, E. Gartstein, G. Kimmel and Y. Eckstein, Tetragonal superconductor family - the effect of cosubstitution on the transition temperature, *Phys. Rev.* **48B**, 532-542 (1993). .
60. G. Kimmel, L. Politi and T. Wieder, Characterization of (Ti,Al)N film by XRD and XRF, *Advance In X Ray Anal.* **37** ,175-182 (1993).

61. Kimmel, J. Sariel, Y. Dahan, S. Nathan and U. Admon, High Quality Line-Profile-Fitting In Multiphase Systems, *Advance In X Ray Anal.* **379**, 5-99 (1993).
62. R. Evron, G. Kimmel and Y. Eyal, Thermal recovery of self-radiation damage in uranite and thorianite, *J. of Nucl. Material*, **217**, 54-66 (1994).
63. R.R . Manory and G. Kimmel, Postdeposition of treatments of TiNx effect of annealing on the structure of nitrogen-rich films, *Surface & Coating Technol.*, **63**, 85-91 (1994).
64. Harrington, C. Korn, S.D. Goren, H. Shaked and G. Kimmel, X-ray diffraction study of the influence of hydrogen on the crystallographic structure of HxYBCO -delta, *Fisica C*, **226**, 255-261 (1994).
65. U. Admon, I. Dahan, M.P. Dariel, G. Kimmel, J. Sariel, A. Schtechman, B. Yahav, L. Zevin and D.S. Lashmore, Copper grain-growth in thin-film Cu-Cr multilayers, *Thin Solid Film*, **252**, 105-109 (1994).
66. Zabicky, G. Kimmel, J. Yaaran and L. Zevin, Powder XRD Characterization of Residual Anisotropy in Tialite (Al_2TiO_5), *Procceeding of the 7th Israel Materials Engineering Conference*, A. Rosen and R. Chaim ed. , pp 83-84, 1994.
67. Sariel, I. Dahan, G. Kimmel, S. Nathan and Ya. Mirsky, Quantitative analysis of zeolites by XRPD, *Procceeding of the 7th Israel Materials Engineering Conference*, A. Rosen and R. Chaim ed, pp 447-450, 1994.
68. D. Dayan, O. Beeri, B. Herman, A. Landau, A. Zahavi and G. Kimmel, Metastable phases in dilute U-W alloys, *Procceeding of the 7th Israel Materials Engineering Conference*, A. Rosen and R. Chaim ed, pp 297-302, 1994.
69. Dayan, O. Beeri, B. Herrman, A. Landau, A. Zahavi, Z. Livne and G.Kimmel, Shear-like transformation in dilute U-W alloys, *J. of Alloys and Compounds* , **226**, 89-93 (1994).
70. Zabicky, G. Kimmel, J. Yaaran and L.S. Zevin, Thermal anisotropy of tialite (Al_2TiO_5) by powder XRD, *Nanostruct. Mat.*, **5**, 675-678 (1995).
71. S. Zevin and G. Kimmel, Quantitative X-ray diffractometry, Springer New-York, ISBN-0-387-94541-5 (1995).
72. G. Kimmel and B. Sarusi EXECAL: A computer program for calibration of line positions in XRPD, *Powder Diffraction*, **10**, 227-228 (1995).
73. I. Halevy, J. Gal, G. Kimmel, D. Regev, S. Fredo, W. Potzel and I. Novik, Mossbauer effect and magnetization studies of mixed valence solid solution $\text{NpOH} \cdot \text{NpH}_2-x$, *J. of Alloys and Compounds* , **225**, 166-170 (1995).
74. Landau, M. Talianker, and Giora Kimmel, Orthorhombic distortion of U₂Ti phase in U-0.8Ti-2.3Nb alloy.,*Scripta-Metallurgica-et-Materialia* ., **32**, 99-102 (1995).
75. W. D. Kaplan and G. Kimmel, Ordred LaGa4 and its relation to other structures in the Ga-La binary system, *J. of Alloys and Compounds*, **232**, 126-132 (1996).
76. D. Dayan and G. Kimmel, Transformations and microstructures in U-Ta system *J. of Alloys and Compounds* , **232**, 126-132 (1996).
77. G. Kimmel, D. Dayan, G. Frank, A. Landau, X-ray diffraction (XRD) characterization of microstrain in some iron and uranium alloys, Israel Atomic Energy Commission, Annual report, 28-56 (1996).
78. Z. Berant, I. Yaar, Z. Gavra, Y. Levitin, G. Kimmel, D. Cohen, S. Kahane, M.H. Mintz, Time-differential perturbed angular correlation studies of

- metallic-hydrogen systems, Israel Atomic Energy Commission, Annual report, 1-14 (1997).
79. Zabicky, N. Frage, G. Kimmel, N. Hazan, H. El-Fahel, E. Goncharov, E. Manor, R. Shneck, Metastable magnesium titanate phases synthesized in nanometric system, *Philos. Mag.*, 76B, 605-614 (1997).
 80. O. Beeri and G. Kimmel, Quantitative Phase Analysis Using the Rietveld Method for Samples in the Ti-Cr Binary Systems - Advances in X-ray Analysis, 41 586-592 (1997).
 81. A. Munitz, G. Kimmel, J. C. Rawers and R.J. Fields, Ball Milling Induced bct phase formation in iron and iron alloys, *Nanostructured Materials*, 8, 867-877 (1997).
 82. G. Kimmel and D. Dayan, X-ray Diffraction Characterization of microstrain in some uranium alloys, *Powder Diffraction*, 13, 89-95 (1998).
 83. G. Kimmel and J. Zabicky, XRPD Analysis of stable and metastable magnesium titanate phase, *Materials Science Forum*, 278-181, 624-629 (1998).
 84. G. Kimmel and J. Zabicky , Quantitative x-ray diffractometry and structural analysis of magnesium titanate mixtures using the rietveld refinement, *Advances in X-ray Analysis*, 42, 238-244 (1998).
 85. Zabicky, G. Kimmel, E. Goncharov and N. Hazan, Mechanical processing of nanometric magnesium titanate precursors, *J. Metastable Nanocryst. Mater.*, 2-6, 191 (1999).
 86. Ezer, A. Sozinov, G., Kimmel, V. Etelaniemi, N.I. Glavatskaya, A. D'Anci V. Podgursky, V.K. Lindroos, K. Ullakko K. Magnetic Shape Memory (MSM) Effects in Textured Polycrystalline Ni₂MnGa, *Proc. of SPIE*, 3675, 244 (1999).
 87. D. Gur and G. Kimmel, Positional ordering in the light RE-Ga system (RE=Rare earth element), *Powder Diffraction*, 14, 122-125 (1999).
 88. G. Kimmel, Y. Shimony, O. Raz and M.P. Dariel, Order and Disorder in ZnGeP₂ Crystals, *Materials Structure*, 6, 149-151 (1999)
 89. Shimony, O. Raz, G. Kimmel and M.P. Dariel, X-ray diffraction analysis of melt-grown ZnGeP₂ (ZGP) , *J. of Crystal Growth* , 198/199, 583-587 (1999).
 90. Brezenitsky, R. Moreh, D. Dayan and G. Kimmel, Comparative study of steel alloys using STM and XRD, *J. Alloys and Compounds*, 290, 25-261 (1999).
 91. Shimony, O. Raz, G. Kimmel and M.P. Dariel, On defects in tetragonal ZnGeP₂ crystals , *Optical Materials* , 13, 101-109 (1999).
 92. Raveh, M. Weiss, M. Pinkas, D.Z. Rosen and G. Kimmel, Graded Al-AlN, and TiAlN multilayers deposited by radio-frequency reactive magnetron sputtering, *Surface Coating Technology*, 114, 269-277 (1999).
 93. G. Kimmel, J. Zabicky, and P. Arigur, Crystal Structure of Disordered Magnesium Titanates in Concentration, Temperature and Time Dimensions, *Acta Cryst. A55 Supplement*, 580 (1999).
 94. G. Kimmel and D. Dayan, X-ray diffraction broadening effects in materials characterization, Defect and microstructure analysis by diffraction, eds. R. L. Snyder and J. Fiala , chapter 29, Oxford, University Press, 1999.
 95. G. Kimmel, D. Dayan and J. Zabicky, X-ray diffraction characterization of thermally annealed nanometric alumina powder, *Materials Science Forum*, 321-324, 762-767 (2000).
 96. Y. Finkelstein, D. Nerirovsky, R. Moreh and G. Kimmel, Study of Papyex Structure Using Neutron Compton Scattering, *Physica B291*, 213-218 (2000).
 97. Y. Ezer, A. Sozinov, G. Kimmel, P. Yakovenko, K. Ullakko and V. K. Lindroos, Large Magnetic-Field-Induced Strains in Textured Polycrystalline

- Ni-Mn-Ga at Room Temperature, Plastic and Viscoplastic Response and Metal Forming, pp 552-524, Editores: A. S. Khan, H. Zhang and Y. Yuan, Neat Press, USA 2000.
98. K. Ullakko, Y. Ezer, A. Sozinov, G. Kimmel, and V. K. Lindroos, Magnetic-Field-Induced Strain in Polycrystalline Ni-Mn-Ga at Room Temperature, *Scripta Mat.* 44, 475-480 (2001).
 99. J. Zabicky, G. Kimmel, E. Goncharov and D. Dayan, XRPD analysis of karrooite-like metastable nanocrystalline phases, *Mater. Sci. Forum*, 378-381, 741-756 (2001).
 100. Halevy, E. Sterer, M. Aizenstein, G. Kimmel, E. Yahel, D. Regev and U. Atzmony, High Pressure Studies of a New Ternary Actinide Compound: UV₂Al₂₀, *J. of Alloys and Compounds*, 319, 19-21 (2001).
 101. G. Kimmel, D. Dayan, E. Goncharov and J. Zabicky, Metastable phases XRPD Broadening Analysis of Different Stable and Metastable Nanocrystalline Oxides, in *Science of Metastable and Nanocrystalline Alloys Structure, Properties and Modeling*, Eds. A.R. Dinesen, M. Eldrup, D. Juul Jensen, S. Lideroth, T.B. Pedersen, N.H. Pryds, A. Schroeder Pedersen, J.A. Wert (Proc. of 22nd Risoe Symp.) 2001, pp283-288.
 102. V.Y. Zenou, G. Kimmel, C. Cotler, M. Aizenshtein, Structure of UAl₄ prepared by solid state, *J. of Alloys and Compounds*, 329, 189-194 (2001).
 103. S. Miyake, I. Shimizu, R.R. Manory, T. Mory, G. Kimmel, Structural modifications of hafnium oxide films prepared by ion beam assisted deposition under high energy oxygen irradiation, *Surface and Coating Technology* 146-147, 237-242 (2001).
 104. G. Kimmel and J. Zabicky, Strain and size effects in metastable nanocrystalline solids, *Proceedings of the Size-Strain III, Analysis of microstructure and residual stress by diffraction methods*, Edt. By P. Scardi, M. Leoni, and E.J. Mittemeijer, pp51-52, December 2-5, 2001, Trento, Italy.
 105. R. Arkush, M.H. Mintz, G. Kimmel, N. Shamir, N. Long-term amorphisation of C+, N₂₊ implanted layers on a uranium surface, *Journal of Alloys and Compounds* 340, 122-126 (2002)
 106. R.R. Manory, T. Mori, I. Shimizu, S. Miyake, G. Kimmel, Growth and structure control of HfO_{2-x} films with cubic and tetragonal structures obtained by ion beam assisted deposition, *Journal of Vacuum Science & Technology A* 20, 549-554 (2002)
 107. Brill, I. Halevy, G. Kimmel, M.H. Mintz, J. Bloch, The initial stage of the hydriding of gadolinium metal at 100 degrees C and sub-ambient pressure, *Journal of Alloys and Compounds* 330-332, 93-98 (2002)
 108. G. Kimmel, J. W. Richardson, R. Xu, P. Ari-Gur, E. Goncharov, J. Zabicky, Rietveld Refinement with XRD and ND: Analysis of metastable qandilite-Like Structures Advances in X-ray Analysis, 47, 261-266 (2004).
 109. Giora Kimmel, Jacob Zabicky, Elena Goncharov, Pnina Ari-Gur, Phase mapping of multi-component oxides derived from sol-gel precursors, *Journal of Metastable and Nanocrystalline Materials*, 20-21, 576-581 (2004).
 110. Sozinov, A. Ezer, Y.; Kimmel, G.; Yakovenko, P.; Giller, D.; Wolfus, Y.; Yeshurun, Y.; Ullakko, K.; Lindroos, V.K., Large magnetic-field-induced strains in Ni-Mn-Ga alloys in rotating magnetic field , *Journal De Physique*. 11, 8311-8316 (2001).
 111. Sozinov, A., Y. Ezer, G. Kimmel, P. Yakovenko, D. Giller, Y. Wolfus, Y. Yeshurun, K. Ullakko, VK. Lindroos, Large magnetic-field-induced strains in

- Ni-Mn-Ga alloys in rotating magnetic field, *Journal de Physique IV*, 11, 311-316 (2001).
112. Fledman, R.; Dahan, I.; Kimmel, G., Shimony, Y., Anti-phase domain boundaries in ZnGeP₂ (ZGP); *Optical Materials*, 16, 119-123 (2001).
113. G. Kimmel and J. Zabicky, Strain and size effects in metastable nanocrystalline solids, *Proceedings of the Size-Strain III, Analysis of microstructure and residual stress by diffraction methods*, Edt. By P. Scardi, M. Leoni, and E.J. Mittemeijer, pp51-52, December 2-5, 2001, Trento, Italy.
114. R. Arkush, M.H. Mintz, G. Kimmel, N. Shamir, N. Long-term amorphisation of C+, N₂₊ implanted layers on a uranium surface, *Journal of Alloys and Compounds* 340, 122-126 (2002).
115. R.R. Manory, T. Mori, I. Shimizu, S. Miyake, G. Kimmel, Growth and structure control of HfO_{2-x} films with cubic and tetragonal structures obtained by ion beam assisted deposition, *Journal of Vacuum Science & Technology A* 20, 549-554 (2002).
116. Halevy, S. Salhov, G. Kimmel, U. Atzmony, U., LCJ. Pereira, AP. Goncalves, W. Schafer, High-pressure studies of a ThMn₁₂-type actinide compound: UFe₅Al₇, *Journal of Physics-Condensed Matter*, 14. 11189- 11193 (2002).
117. A. Saig, A. Danon, Y. Finkelstein, G. Kimmel, A. Koresh, a continuous polymorphic transition of coordinating water molecules in CuSO₄·5H₂O, *Journal of Physics and Chemistry of Solid*, 64, 701- 706 (2003).
118. G. Kimmel, J. W. Richardson, R. Xu, P. Ari-Gur, E. Goncharov, J. Zabicky, Rietveld Refinement With XRD and ND: Analysis of Metastable Qandilite-Like Structures, *Advances in X-ray Analysis*, 47, 261-266 (2004).
119. A. Munitz, R.E. Ricker, D.J. Pitcher, and G. Kimmel, The influence of thermodynamical treatments on the complex modulus of Mg alloys, *Metall. and Mater. Trans. A*, 36, 3269-3279 (2005).
120. Joseph Gal, Dmitry Mogilyansky, Michael Nippus, Jacob Zabicky and Giora Kimmel, Fast high resolution characterization of powders using an imaging plate Guinier camera, *Nuclear Instruments & Methods in Physics Research A*, 551, 145-151 (2005).
121. Chernia, Z.; Ben-Eliyahu, Y.; Kimmel, G.; Braun, G.; Sariel, J. The Initial Stage of Uranium Oxidation: Mechanism of UO₂ Scale Formation in the Presence of a Native Lateral Stress Field, *Journal of Physical Chemistry* 110B, 23041-23051 (2006).
122. Giora Kimmel, Jacob Zabicky, Elena Goncharov, Dmitry Mogilyanski, Arie Venkert, Yishai Bruckental, and Yosef Yeshurun, Formation and characterization of nanocrystalline binary oxides of yttrium and rare earths metals, *J. of Alloys and Compounds*, 423, 102-106 (2006).
123. Perets, S.; Tseitlin, M.; Shneck, R. Z.; Mogilyanski, D.; Kimmel, G.; Burshtein, Z. Sodium gadolinium tungstate NaGd(WO₄)₂: Growth, crystallography, and some physical propertiesDepartment of Materials Engineering, *Journal of Crystal Growth*, 305, 257-264 (2007).
124. S. Salhov, G. Kimmel and M.P. Dariel Contribution to the U-Ga phase diagram *Journal of Alloys and Compounds*, 444, 257-260 (2007).
125. G. Kimmel, H.On, D. Itzhak, J. Hormadaly, Crystal Structure of Nd_{2-x}M_x Ru₂O₇ - y (M=Cu,Ag) Pyrochlores, *Powder Diffraction*, 22, 231-235 (2007).
126. B. Herrmann, A. Landau, Y. Gelbstein and G. Kimmel, Kinetic Study of Aging in Uranium-Titanium Eutectoids Alloy, Using Thermoelectric Power

- Measurement, Review of Progress in Quantitative Nondestructive Evaluation, 27B, 1093-1100, 2008.
127. G. Kimmel and J. Zabicky, Stability, instability, metastability and grain size in nanocrystalline ceramic oxide systems, Solid State Phenomena, 140, 29-36, 2008.
128. O. F. Toader, F. Naab, P. Ari-Gur, G. Kimmel, Structural Changes Induced by Low-Flux Ion Irradiation in a Ni4Mo Alloy, AIP Conference Proceedings, 1099(Application of Accelerators in Research and Industry), 1002-1005, 2009.
129. G. Kimmel, Y. HaCohen-Kerner, E. Nissan, and E. Berman . A Case-Based Reasoning Approach to the Identification of Materials from Diffraction Patterns.. Applied Artificial Intelligence, 23, 282-295, 2009.
130. P. Ari-Gur, G. Kimmel, J. W. Richardson, A. Huq, Application of neutron powder diffraction for the study of non-stoichiometric Ni₂MnGa based alloys, Z. Kristallogr. Suppl. 30, 277-282 (2009).
131. G. Kimmel and D. Mogilyanski, Advantages and disadvantages of fast XRPD measurement by using image-plate and rotating anode source, Z. Kristallogr. Suppl. 30, 171-176 (2009).
132. J. Zabicky, G. Kimmel., E. Goncharov and F. Guirado, Magnesium titanate phases from xerogels by hot stage X-ray powder Diffractometry, Z. Kristallogr. Suppl. 30, 347-352 (2009).
133. G. Benamar, D. Schweke, N. Shamir, S. Zalkind, T. Livneh, A. Danon, G. Kimmel and M.H. Mintz, Heat pretreatment-induced activation of gadolinium surfaces towards the initial precipitation of hydrides, J. of Alloys and compounds, 498, 26-29 (2010).
134. Navi, N. U., Kimmel, G., Zabicky, J., Ushakov, S. V., Shneck, R. Z., Mintz, M. H. and Navrotksy, A. (2011), Yttrium Substitution in MTiO₃ (M=Ca, Sr, Ba and Ca+Sr+Ba) Perovskites and Implication for Incorporation of Fission Products into Ceramic Waste Forms. Journal of the American Ceramic Society Volume 94, Issue 9, pages 3112–3116, September 2011.
135. G. Kimmel, J. Zabicky, R. Shneck, A. Tsinman, Z. Shalle, J. D. Fidelus, S. Gierlotka, W. Lojkowski, XRPD study of phase transformations accompanied with grain growth in the alumina–zirconia system, Z. Kristallogr., proc. 1(2011) 455-460.
136. I. Jacob, S. Delleda, M. Berezeinitsky, O. Yrheskel, D. Mogilyanski, G. Kimmel, B. C. Hauback, Can reduced size of metals induce hydrogen absorption - ZrAl₂ case, J. Alloys and Compounds, 2011, 509S, S794-S796.
137. G. M. Benamar, D. Schweke, G. Kimmel, M. H. Mintz, Preferred hydride growth orientation on oxideoated gadolinium surface, J. Alloys and Comp., 2012, 520, 98-104.
138. Nissim U. Navi, Roni Z. Shneck, Tatiana Y. Shvareva, Giora Kimmel, Jacob Zabicky, Moshe H. Mintz, Alexandra Navrotksy, Journal of the American Ceramic Society Volume 95, Issue 5, pages 1717–1726, May 2012.
139. E. Tiferet, G. Kimmel, G. Danieli, D. Mogilyanski, O. Yeheskel, J. of European Cer. Soc., 2013, 33, 1947-1954