

## **Monographs**

1. Metody rentgenowskie w badaniach stałych materiałów węglowych (in polish), Warszawa 1992, S.Jasieńko i J.Pielaszek ed., author of chapter 3 and coauthor of chapters 2,5.
2. Nanoalloys: From Fundamentals to Emergent Applications, Elsevier Science Limited, 2013, ed.F.Calvo , chapter 5- Thermodynamical properties of nanoalloys, Z.Kaszkur

## **Publications**

1. J.Frydrychowicz, J.Roszkowski, Z.Kaszkur,  
Komputerowa symulacja energetycznej zależności rentgenowskiego współczynnika załamania w obszarze anomalnej dyspersji.  
Biuletyn WAT, **30** , 105 (1981).
2. W.Palczewska, A.Jabłoński, Z.Kaszkur, G.Zuba, J.Wernisch,  
Study of Lead Additives in Modified Palladium Catalysts,  
Journal of Molecular Catalysis, **25** ,307(1984).
3. Z.Kaszkur, J.Stachurski, J.Pielaszek,  
X-Ray Diffraction Study of the Palladium-Carbon System,  
Journal of the Physical Chemistry of Solids, **47** ,795(1986).
4. Z.Kaszkur,  
The Effect of Axial Texture on RDF Analysis,  
Zeitschrift für Kristallographie, **185** ,540(1988).
5. Z.Kaszkur,  
The Influence of the Texture on Radial Distribution Function of Solid Carbons, Journal of Applied Crystallography , **22** (3),205(1989).
6. Z.Kaszkur,  
Convolutional Approach to the Normalisation of Intensity Scattered by Polycrystalline Substances,  
Journal of Applied Crystallography , **23** ,180-185 (1990).
7. Z.Kaszkur,  
General Approach to the Radial Distribution Function Analysis of Solid Carbons. Fuel , **69** ,834-839 (1990).
8. Z.A.Kaszkur, R.H.Jones, J.W.Couves, D.Waller, C.R.A.Catlow, J.M.Thomas,  
Locating the sites of sorbed chloroform and dichlorobenzene in a zeolite solid: a synchrotron based diffraction study of zeolite Y at room temperature.  
Journal of the Physical Chemistry of Solids , **52** ,1219 (1991).

9. Z.A.Kaszkur, R.H.Jones, D.Waller, C.R.A.Catlow, J.M.Thomas,  
Combined Rietveld- molecular dynamics powder diffraction approach to the location of  
molecules in porous solids: application to 1,4 dibromobutane in zeolite Y.  
Journal of Physical Chemistry, **97**, 426-431(1993).
10. D.Łomot, W.Juszczak, J.Pielaszek, Z.Kaszkur, T.N.Bakuleva, Z.Karpiński, T.Wąsowicz,  
J.Michalik,  
Structure and reactivity of supported palladium catalysts. I. Pd/SiO<sub>2</sub> prepared from PdCl<sub>2</sub>  
, New Journal of Chemistry, **19**, 263(1995).
- 11.G.L.Perlovich, W.Zielenkiewicz, E.Utzig, Z.Kaszkur, O.A.Golubchikov,  
Thermokinetic and structural investigations of crystallosolvents based on the tetraphenyl-  
porphine and its copper complex,  
Thermochimica Acta, **279**, 121-136(1996).**19**
- 12.Z.A.Kaszkur, R.H.Jones, R.G.Bell, C.R.A.Catlow, J.M.Thomas,  
The location of para-xylene in the pores of a model ferrierite catalyst: a powder  
diffraction and computational study,  
Molecular Physics, **89**, 1345-1357(1996).
- 13.G.L.Perlovich, W.Zielenkiewicz, Z.Kaszkur, E.Utzig, O.A.Golubchikov,  
Termochimical and structural properties of crystalline solvates of tetraphenylporphyrin  
and their zinc, copper and cadmium metallo-complex,  
Termochimical Acta, V3622, 1-9(1997).
- 14.Z.A.Kaszkur, B.Mierzwa,  
Segregation in model palladium-cobalt clusters,  
Philosophical Magazine A, **77**, 781-800(1998).
- 15.Z.Kaszkur,  
Powder diffraction of small palladium crystallites,  
Materials Science Forum, vols.**278-281**, 110-114(1998).
- 16.Mierzwa B., Kaszkur Z., Moraweck B., Pielaszek J.,  
In Situ EXAFS Study of the Alloy Catalyst Pd-Co(50%/50%)/SiO<sub>2</sub>,  
Journal of Alloys and Compounds, **286**, 93-97(1999).
- 17.Jak M.J.G., Kelder E.M., Kaszkur Z.A.,Pielaszek J.,Schoonman J.,  
Li-ion Conductivity of BPO<sub>4</sub>-Li<sub>2</sub>O; The Relation Between Crystal Structure and Ionic  
Conductivity,  
Solid State Ionics, **119**, 159-164(1999).
- 18.Kaszkur Z.,

- Nanopowder diffraction analysis beyond the Bragg law applied to Palladium.  
Journal of Applied Crystallography, **33**, 87-94(2000).
19. Kaszkur Z.,  
Powder Diffraction beyond the Bragg law: study of palladium nanocrystals.  
Journal of Applied Crystallography, **33**, 1262-1270(2000).
20. Kaszkur Z.,  
Interaction of metal nanoparticles surface with gas phase studied by X-Ray Diffraction.  
Materials Science Forum, **378-381**, 314-319 (2001).
21. Pielaszek J., Kaszkur Z., Mierzwa B.,  
X-ray studies of nanomaterials. Theory and experiment.  
Applied Crystallography. 18<sup>th</sup>, 21-26, 2001 World Scientific Publishing Co, ISSN: 0219-1792.
22. Perlovich G., Zielenkiewicz W., Kaszkur Z., Słowińska J.,  
The thermochemistry of polymorphs and crystalline solvates based on  
tetraphenylporphyrin and its zinc complex,  
Journal of Molecular Liquids, **95**, 243-259(2002).
23. Lisoviytskiy D., Kaszkur Z., Baumer N.V., Pielaszek J., Molenda M., Dziembaj R., Marzec J., Molenda J., Dygas J., Krok F.,  
Phase transformation of nanocrystalline lithium manganese spinels produced by low and  
high temperature methods,  
Molecular Physics Reports, **35**, 26-30 (2002).
24. Filipiak S.M. , Paul-Boncour V., Percheron Guegan A. ,Jacob I., Marchuk I., Dorogova M.,  
Hirata T., Kaszkur Z.,  
Synthesis of novel deuterides in several Laves phases by using gaseous deuterium under  
high pressure,  
Journal of Physics: Condensed Matter, **14**, 11261-11264(2002).
25. Lisoviytskiy D., Kaszkur Z., Baumer V.N., Pielaszek J., Marzec J., Molenda J., Dygas J.,  
Kopeć M., Krok F.,  
Phase transformations in Li-Mn-O spinels synthesized by sol-gel method,  
Materials Science Forum , **443-444**, 311-314 (2004).
26. Kaszkur Z.,  
Direct observation of chemisorption induced changes in concentration profile in Pd-Au  
alloy nanosystems via in situ X-ray powder diffraction,  
Physical Chemistry Chemical Physics, **6**, 193-199(2004).
27. Szmigiel D., Raróg-Pilecka W., Miśkiewicz E., Kaszkur Z., Kowalczyk Z.,  
Ammonia decomposition over the ruthenium catalysts deposited on magnesium-

- aluminum spinel,  
Applied Catalysis A. **264**, 59-63 (2004).
- 28.Szmigel D., Raróg-Pilecka W., Miśkiewicz E., Gliński M., Kielak M., Kaszkur Z., Kowalczyk Z.,  
Ammonia synthesis over ruthenium catalysts supported on high surface area MgO and MgO-Al<sub>2</sub>O<sub>3</sub> systems. Applied Catalysis A.273, 105-112 (2004).
29. Mierzwa B., Kaszkur Z.  
“Combined XRD-EXAFS software tools for metal nanoclusters”  
Applied Crystallography, Proceedings of the XIX Conference , World Scientific Publishing Co. 2004 ,pp162-166, ISBN: 981-238-761-7.
30. Kaszkur Z., Mierzwa B., Pielaśzek J.,  
Ab initio test of the Warren-Averbach analysis on model palladium nanocrystals.  
Journal of Applied Crystallography, **38**, 266–273 (2005).
- 31.Kobiela T., Kaszkur Z., Duś R.,  
Fabrication of Au nanostructures in the process of amalgam formation  
followed by Au-Hg alloy thermal decomposition.  
Thin Solid Films, **478**, 152– 158 (2005).
32. Kaszkur Z.,  
Test of applicability of some powder diffraction tools to nanocrystals.  
Zeitschrift für Kristallographie, **23**, 147-154 (2006).
33. Szmigel D., Rarog-Pilecka W., Miskiewicz E., Maciejewska E., Kaszkur Z., Sobczak J.W., Kowalczyk Z.,  
Ammonia synthesis over the Ba-promoted ruthenium catalysts supported on boron nitride.  
Catalysis Letters, **100** (1-2), 79-87 (2005).
- 34.Kutner W., Pieta P., Nowakowski R., Sobczak J.W., Kaszkur Z., McCarty A.L., D’Souza F.,  
Composition, Structure, Surface Topography, and Electrochemical Properties of  
Electrophoretically Deposited Nanostructured Fullerene Films  
Chemistry of Materials, **17** ,5635-5645 (2005).
- 35.Lisovskytskiy D., Kaszkur Z., Pielaśzek J., Marzantowicz M., Dygas J.R.,  
In-situ impedance and X-ray diffraction study of phase transformation in lithium  
manganese spinel  
Solid State Ionics, **176**, 2059-2064 (2005).
36. Kaszkur Z.,  
Interaction of NO and CO with Surface of Pd Nanoclusters studied by XRD.  
Acta Crystallographica, **A61**, C96 (2005).

37. Kopeć M., Lisovytskiy D., Marzantowicz M., Dygas J.R., Krok F., Kaszkur Z., Pielaszek J.,  
X-ray diffraction and impedance spectroscopy studies of lithium manganese oxide spinel.  
Journal of Power Sources, **159**, 412-419 (2006).
38. Raróg-Pilecka W., Jedynak-Koczuk A., Petryk J., Miśkiewicz E., Jodzis S., Kaszkur Z., Kowalczyk Z.,  
Carbon-supported cobalt-iron catalysts for ammonia synthesis.  
Applied Catalysis A, General, **300**, 181-185 (2006).
39. Raróg-Pilecka W., Miśkiewicz E., Matyszek M., Kaszkur Z., Kępiński L., Kowalczyk Z.,  
Carbon-supported cobalt catalyst for ammonia synthesis: Effect of preparation procedure.  
Journal of Catalysis, **237**, 207-210 (2006).
40. Raróg-Pilecka W., Miśkiewicz E., Jodzis S., Petryk J., Łomot D., Kaszkur Z., Karpiński Z., Kowalczyk Z.,  
Carbon-supported ruthenium catalysts for NH<sub>3</sub> synthesis doped with caesium nitrate:  
Activation process, working state of Cs-Ru/C,  
Journal of Catalysis, **239**, 313-325 (2006).
41. Śrębowa A., Sadowska M., Juszczak W., Kaszkur Z., Kowalczyk Z., Nowosielska M., Karpinski Z.,  
Hydrogen-assisted dechlorination of 1,2-dichloroethane over silica-supported nickel-ruthenium catalysts.  
Catalysis Communications, **8**, 11-15 (2007) .
42. Śrębowa A., Juszczak W., Kaszkur Z., Sobczak J.W., Kępiński L., Karpiński Z.,  
Hydrodechlorination of 1,2-dichloroethane and dichlorodifluoromethane over Ni/C catalysts: The effect of catalyst carbiding.  
Applied Catalysis A: General **319**, 181–192 (2007).
43. Gliński M., Kozioł A., Łomot D., Kaszkur Z.,  
Catalytic ketonization over oxide catalysts. Part XII. Selective reduction of carboxylic acids by formic acid.  
Applied Catalysis A: General **323**, 77-85 (2007).
44. Śrębowa A., Juszczak W., Kaszkur Z., Karpiński Z.,  
Hydrodechlorination of 1,2-dichloroethane on active carbon supported palladium-nickel catalysts.  
Catalysis Today, **124**, 28-35 (2007).
45. Kowalczyk Z., Raróg-Pilecka W., Miśkiewicz E., Szmigiel D., Kaszkur Z.,  
Response to Letter to the Editor.  
Catalysis Letters, **116**, 169-170 (2007).

46. Keim E.G., Lisowski W., Smithers M.A., Kaszkur Z.,  
Microstructural transformation of thin Ti/Pd and TiDy/Pd bi-layer films induced by  
vacuum annealing.  
*Microsc.Microanal.*, **13**(Suppl.2),1290-1291(2007).
47. Lisowski W.,Keim E.G., Kaszkur Z.,van den Berg A.H.J., Smithers M.A.,  
Microstructural and chemical transformation of thin Ti/Pd and TiD<sub>y</sub>/Pd bilayer films  
induced by vacuum annealing.  
*Anal.Bioanal.Chem.*, **389**, 1489-1498(2007).
48. Bonarowska M., Kuan-Nan Lin, Legawiec-Jarzyna M., Stobiński L., Juszczak W., Kaszkur  
Z., Karpiński Z., Hong-Ming Lin,  
Multi-wall carbon nanotubes as a support for platinum catalyst for the  
hydrodechlorination of carbon tetrachloride and dichlorodifluoromethane.  
*Solid State Phenomena*, **128**, 261-271 (2007).
49. Lisowski W.,Keim E.G., Kaszkur Z., Smithers M.A.,  
Decomposition of thin titanium deuteride films; thermal desorption kinetics studies  
combined with microstructure analysis.  
*Appl.Surf.Sci.*, **254**, 2629-2637(2008).
50. Wajler A., Tomaszewski H., Drożdż-Cieśla E., Węglarz H., Diduszko R., Kaszkur Z.,  
Mechanizm syntezy spinelu glinowo-magnezowego otrzymywanego z prekursorów  
węglanowych.  
*Ceramika/Ceramics*, **103**, 781-789(2008).
51. Wajler A., Tomaszewski H., Drożdż-Cieśla E., Węglarz H., Kaszkur Z.,  
Study of magnesium aluminate spinel formation from carbonate precursors.  
*Journal of the European Ceramic Society*, **28**, 2495-2500 (2008).
52. Rzeszotarski P., Kaszkur Z.,  
Surface reconstruction of Pt nanocrystals interacting with gas atmosphere. Bridging the  
pressure gap with in situ diffraction.  
*Phys.Chem.Chem.Phys.*, **11**, 5416 – 5421 (2009).
53. Wilczkowska E., Kowalczyk Z., Petryk J., Raróg-Pilecka W., Kaszkur Z.,  
Catalytic Decomposition of Nitrous Oxide.  
*Polish J.Chem.*, **83**, 515-518 (2009).
54. Truszkiewicz E., Raróg-Pilecka W., Schmidt-Sałowski K., Jodzis S., Wilczkowska E.,  
Łomot D., Kaszkur Z., Karpiński Z., Kowalczyk Z.,  
Barium – promoted Ru/carbon catalyst for ammonia synthesis. State of the system when  
operating.  
*J.Catal.*, **265**, 181-190 (2009).

55. Legawiec-Jarzyna M., Juszczysz W., Bonarowska M., Kaszkur Z., Kępiński L., Kowalczyk Z., Karpiński Z.,  
Hydrodechlorination of  $\text{CCl}_4$  on Pt-Au/ $\text{Al}_2\text{O}_3$  catalysts.  
*Top.Catal.*, **52**, 1037-1043 (2009).
56. Znak L., Kaszkur Z., Zieliński J.,  
Evolution of Metal Phase in the Course of CO Hydrogenation on Potassium Promoted Ni/ $\text{Al}_2\text{O}_3$  Catalyst.  
*Catal.Lett.*, **136**, 92-95 (2010).
57. Zieliński J., Zglinicka I., Znak L., Kaszkur Z.,  
Reduction of  $\text{Fe}_2\text{O}_3$  with hydrogen.  
*Applied Catalysis A: General* **381**, 191-196 (2010).
58. Bonarowska M., Kępiński L., Kaszkur Z., Karpiński Z.,  
Hydrodechlorination of tetrachloromethane on alumina- and silica-supported platinum catalysts.  
*Applied Catalysis B: Environmental*, **99**, 248-256 (2010).
59. Nietubyć R., Caliebe W., Dynowska E., Nowakowska-Langier K., Pełka J., Romanowski P.,  
Kaszkur Z.,  
Growth of arc deposited Nb films on a sapphire (001) substrate.  
Hasylab annual report 2010, Deutsches Elektronen Synchrotron, Hamburg 2010.
60. Ilieva L., Pantaleo G., Ivanov I., Maximova A., Zanella R., Kaszkur Z., Venezia A.M.,  
Andreeva D.,  
Preferential oxidation of CO in H<sub>2</sub> rich stream (PROX) over gold catalysts supported on doped ceria: effect of preparation method and nature of dopant.  
*Catalysis Today*, **158**, 44-55 (2010).
61. Lewiński J., Kaczorowski T., Prochowicz D., Lipińska T., Justyniak I., Kaszkur Z., Lipkowski J.,  
Cinchona Alkaloid-Metal Complexes: Noncovalent Porous Materials with Unique Gas Separation Properties.  
*Angewandte Chemie*, **49**, 7035-7039 (2010).
62. Wilczkowska E., Krawczyk K., Petryk J., Sobczak J.W., Kaszkur Z.,  
Direct nitrous oxide decomposition with a cobalt oxide catalyst.  
*Applied Catalysis A: General*, **389**, 165-172 (2010).
63. Bury W., Krajewska E., Dutkiewicz M., Sokołowski K., Justyniak I., Kaszkur Z. Kurzydłowski K.J., Płociński T., Lewiński J.,  
Tert-Butylzinc hydroxide as an efficient predesigned precursor of ZnO nanoparticles.  
*Chemical Communications*, **47** (19), 5467-5469 (2011).
64. Iwanek, E., Krawczyk, K., Petryk, J., Sobczak, J.W., Kaszkur, Z.,  
Direct nitrous oxide decomposition with CoOx-CeO<sub>2</sub> catalysts  
*Applied Catalysis B: Environmental*, **106** (3-4), 416-422 (2011).

65. Ilieva L., Petrova P., Tabakova T., Zanella R., Abrashev M.V., Sobczak J.W., Lisowski W., Kaszkur Z., Andreeva D.  
Relationship between structural properties and activity in complete benzene oxidation over Au/CeO<sub>2</sub>–CoO<sub>x</sub> catalysts  
*Catalysis Today*, **187**, 30– 38 (2012).
66. Prochowicz D., Justyniak I., Kornowicz A., Kaczorowski T., Kaszkur Z., Lewiński J.  
**Construction of a Porous Homochiral Coordination Polymer with Two Types of CuIn Alternating Units Linked by Quinine: A Solvothermal and a Mechanochemical Approach**  
*Chem.Eur.J.*, **18** (24), 7367-7371(2012),  
DOI: 10.1002/chem.201200236
67. Ilieva, L., Petrova, P., Tabakova, T., Zanella, R., Kaszkur, Z.  
Gold catalysts on ceria doped with MeOx (Me=Fe, Mn, Co and Sn) for complete benzene oxidation: effect of composition and structure of the mixed supports  
*Reaction Kinetics, Mechanisms and Catalysis.* ,**105**(1), 23-37(2012),  
DOI: 10.1007/s11144-011-0368-2.
68. Tabakova T., Ilieva L., Ivanov I., Zanella R., Sobczak J.W., Lisowski W., Kaszkur Z., Andreeva D.,  
Influence of the preparation method and dopants nature on the WGS activity of gold catalysts supported on doped by transition metals ceria.  
*Applied Catalysis B: Environmental* ,**136- 137**, 70– 80 (2013).
69. Zieliński J., Znak L., Kaszkur Z.,  
The effect of potassium on CO disproportionation on Ni/Al<sub>2</sub>O<sub>3</sub> catalyst  
*Applied Catalysis A: General*, **460–461**, 78–81 (2013) .
70. Kaszkur Z., Mierzwa B., Juszczuk W., Rzeszotarski P., Łomot D.,  
Quick low temperature coalescence of Pt nanocrystals on silica exposed to NO- the case of reconstruction driven growth?  
*RSC Adv.*, **4** (28), 14758 – 14765 (2014) .
71. Dolinska J., Kannan P., Sashuk V., Jonsson-Niedziolka M., Kaszkur Z., Lisowski W., Opallo M.  
Electrocatalytic Synergy on Nanoparticulate Films Prepared from Oppositely Charged Pt and Au Nanoparticles,  
*ChemElectroChem* 2014, **1**(6), 1023-1026.
72. Ilieva Gencheva L., Petrova P., Tabakova T., Pantaleo G., Montes V., Sobczak J.W.; Lisowski W.,  
Kaszkur Z., Boutonnet M., Venezia A.M.,  
Pure hydrogen production via PROX over gold catalysts supported on Pr-modified ceria,  
*Fuel*, (2014) 134, 628-635.
73. Dolinska J., Kannan P., Sashuk V., Kaszkur Z., Sobczak J.W., Jonsson-Niedziolka M.,  
Opallo M.,  
The Versatile Electrocatalytic Oxidation of Glucose on BimetKallie Nanoparticulate Film Electrode,  
*J. Electrochem. Soc.*, (2014) 161(13): H3088-H3094.

74. Kaszkur Z., Rzeszotarski P., Juszczuk W.,  
Powder Diffraction in studies of nanocrystal surfaces - chemisorption on Pt.  
Journal of Applied Crystallography, (2014), 47, 2069-2077.
75. Sokołowski K, Justyniak I., Bury W., Grzonka J., Kaszkur Z., Mąkolski Ł, Dutkiewicz M.,  
Lewalska A., Krajewska E., Kubicki D., Wójcik K., Kurzydłowski K.J., and Lewiński J.,  
Tert-Butyl(tert-Butoxy)zinc Hydroxides: Hybrid Models for Single-Source Precursors of ZnO  
Nanocrystals.  
Chemistry A European Journal, (2015), DOI: 10.1002/chem.201406245 .
76. Bonarowska M., Kaszkur Z., Łomot D., Rawski M., Karpiński Z.,  
Effect of gold on catalytic behavior of palladium catalysts in hydrodechlorination of  
tetrachloromethane.  
Applied Catalysis B, Environmental, (2015), 162, 45-56.
77. Nanosized gold catalysts on Pr-modified ceria for pure hydrogen production via WGS reaction.  
Materials Chemistry and Physics (2015) accepted.
78. Kaszkur Z., Juszczuk W., Łomot D.,  
Self diffusion in nanocrystalline alloys.  
Phys.Chem.Chem.Phys., under review (2015).