Andrzej Baczmański Kraków, 17.01.2023

LIST OF PUBLICATIONS

1. K. Wierzbanowski, A. Baczmański, Methods of Determination of Rotation Rate Field from Experimental Texture Data, Arch. of Metall., 34, 335- 352 (1989);
   (published also as: Report of the Institute of Physics and Nuclear Techniques, Raport INT 33/PS, 22 pages, Kraków, Poland, 1989)
2. A. Baczmański, W.G. Haije, P.C. Brand, F. Maniawski, K. Wierzbanowski, TEXT : the computer programs for texture analysis, Energieonderzoek Centrum Nederland (E.C.N.), Afdeling: Materialen, Memo. No.: ECN-90-058, 15 pages, The Netherlands (1990)
3. A. Baczmański, W.G. Haije, R.B. Helmholdt, TEXT: A program package for texture analysis, Energieonderzoek Centrum Nederland (E.C.N.), Afdeling: SU Materialen, Memo. No.: 91-VSF-046, Netherland (1990)
4. A. Morawiec, K. Wierzbanowski, J. Jura, A. Baczmański, Prediction of Deformation Texture in Polycrystals, Philosophical Magazine A, 64, 1251- 1263 (1991)
5. A. Baczmański, K. Wierzbanowski, J. Jura, W.G. Haije, R.B. Helmholdt, F.Maniawski, Calculation of the Rotation Rate Field on the Basis of Experimental Texture Data, Philosophical Magazine A, 67, 155- 171 (1993)
   published also as: ECN Report No RX--91-101, 21 pages, Netherlands Energy Research Foundation, Petten, The Netherlands, 1991)
6. J. Tarasiuk, K. Wierzbanowski, A. Baczmański, R.B. Helmholdt, Application of Morawiec's Method to Non-Destructive Evaluation of Texture Heterogeneity, Arch. of Metall., 38, 339- 352 (1993)
   (published also as: ECN Report No. RX--92-006, 32 pages, Netherlands Energy Research Foundation, Petten, The Netherlands, 1992)
7. A. Baczmański, K.Wierzbanowski, W.G.Haije, R.B. Helmholdt, G.Ekambaranathan, and B.Pathiraj, Diffraction Elastic Constants for Textured Materials- Different Methods of Calculation, Cryst. Res. Technol., 28 229-243 (1993)
8. A. Baczmański, K. Wierzbanowski, P. Lipiński, R.B. Helmholdt, G. Ekambaranathan, B. Pathiraj, Examination of the residual stress field in plastically deformed polycrystalline material, Philosophical Magazine A, 69, 437- 449 (1994)
9. J. Tarasiuk, K. Wierzbanowski, A. Baczmański, Application of the Method for Non-Destructive Evaluation of Texture Heterogeneity, Materials Science Forum, 157-162, 213- 220 (1994)
10. A. Baczmański, K. Wierzbanowski, P. Lipiński, Determination of Residual Stresses in Plastically Deformed Polycrystalline Material, Materials Science Forum, 157-162, 2051- 2058 (1994)
11. A. Baczmański, K. Wierzbanowski, J. Tarasiuk, Models of Plastic Deformation Used for Internal Stress Measurements, Zeitschrift fhr Metallkunde, 86, 507-511 (1995)
12. A. Baczmański, K. Wierzbanowski, J. Tarasiuk and Lodini ,A., Determination of Residual Stresses by Diffraction Method in Anisotropic Materials, Archives of Metallurgy 42, No.2, 173-188 (1997)
13. J. Tarasiuk, K. Wierzbanowski, A. Baczmański, New Direct Algorithm for the Calculation of the Orientation Distribtion Function from Pole Figures, Archives of Metallurgy, 42, 257- 272 (1997)
14. A. Baczmański, K. Wierzbanowski, J. Tarasiuk, M. Ceretti, A. Lodini, Anisotropy of Micro-Stress - Measured by Diffraction, Revue de Metallurgie, 94, 1467- 1474 (1997)
15. J. Tarasiuk, K. Wierzbanowski, A. Baczmański, New Algorithm of Direct Method of Texture Analysis, Crystal Research and Technology, 33, 101- 118 (1998)
16. J. Tarasiuk, K. Wierzbanowski, A. Baczmański, Non-Destructive Analysis of Crystallographic Texture Heterogeneity, Philosophical Magazine A, 78, 819-834 (1998)
17. J. Tarasiuk, K. Wierzbanowski, A. Baczmański, Non-Destructive Study of Texture Heterogeneity, Materials Science Forum, 273- 275, 283- 288 (1998)
18. J. Tarasiuk, K. Wierzbanowski, A. Baczmański, New Algorithm for the ODF Calculation from Pole Figures, Materials Science Forum, 273- 275, 133- 138 (1998)
19. P Sałek, J. Tarasiuk, K. Wierzbanowski, A. Baczmański, Genetic Algorithm, a New Concept in Texture Analysis, Materials Science Forum, 273- 275, 139- 144 (1998)
20. A. Baczmański, K. Wierzbanowski, Ch.Braham , A. Lodini, Internal Stresses in Two Phases Material,

Archives of Metallurgy, 44, 39-50 (1999)
21. K. Wierzbanowski, A.Baczmański and J. Tarasiuk, Badanie deformacji plastycznaj w materiałach o znaczeniu przemysłowym, Postępy Fizyki, 50, 11-12 (1999)
22. M. Richert, A.Baczmański and A.Korbel, Analiza tendendencji w ewolucji tekstury aluminium w warunkach osiowego ściskania, Inżynieria Materiałowa, 1, 18- 20 (2000)
23. P. Zattarin, A. Baczmański, P. Lipiński and K.Wierzbanowski, Modified Self-Consistent Model for Time Independent Plasticity of Polycrystalline Material, Archives of Metallurgy, 45, 163-184 (2000)
24. M. Richert, A. Baczmański and J.Richert Simulation of Cyclic Extrusion Compression Using Elastoplastic Model, Archives of Metallurgy, 45, 382-392 (2000)
25. S.J. Skrzypek, A. Baczmański and E.Kusior, Opracowanie i wdrożenie nowej nieniszczącej metody pomiaru naprężeń własnych opartej na geometrii dyfrakcji promieniowania X przy stałym kącie padania, Problemy Eksploatacji, 2, 313-333 (2000)
26. S.J. Skrzypek, A.Baczmański and E.Kusior, Pomiary mikronaprężeń własnych (NW) przy użyciu dyfrakcji promieni X przy stałym kącie padania- metoda g-sin$^2\psi$, Zeszyty Naukowe Politechniki Świętokrzyskiej, 463-470 (2000)
27. S.J. Skrzypek, A. Baczmański, W. Ratuszek and E. Kusior, New approach to stress analysis based on grazing-incidence X-ray diffraction, J. Appl. Cryst., 34, 427-435 (2001).
28. S.J. Skrzypek and A. Baczmański, Progress in X-ray Diffraction of Residual Macro-Stresses Determination Related to Surface Layer Gradients and Anisotropy, Advances in X-Ray Analysis, 124-145, 44, (2001)
29. S.J. Skrzypek, Baczmański A., Wesołowski Z, Zowczak W., Residual macrostresses of metal plates after laser forming, Inżynieria Materiałowa, 5 (124), 843-845 (2001)
30. A. Baczmański, C. Braham, R. Levy-Tubiana, A. Lodini and K. Wierzbanowski, Microstresses Determined by Neutron Diffraction and Self-Consistent Model, in "Recent Advances in Experimental Mechanics - In Honor of Isaac M. Daniel", Kluwer Academic Publishers, 477 - 487 (2002)
31. A. Baczmański, C. Braham and A. Lodini, Intergranular Stresses Determined by Diffraction and Self-consistent Model, Materials Science Forum, 404-407, 729-734 (2002)
32. A. Baczmański, S.J. Skrzypek, Application of Non-linear Sin$^2\psi$ Method for Stress Determination Using X-ray Diffraction, Materials Science Forum, 404-407, 29-34 (2002)
33. M.E. Fitzpatrick, P.J. Withers, A. Baczmański, M.T. Hutchings, R. Levy, M.Ceretti and A. Lodini, Changes in the misfit stresses in an Al/SiCp metal matrix composite under plastic strain, Acta Materialia, 50, 1031-1040 (2002)
34. R. Levy-Tubiana, A. Baczmański, and A. Lodini, Relaxation of thermal mismatch stress due to plastic deformation in an Al/SiCp metal matrix composite, Materials Science & Engineering A, 341, 74-86 (2003)
35. A. Baczmański, C. Braham and W. Seiler, Microstresses in Textured Polycrystals Studied by Multireflection Diffraction Method and Self Consistent Model, Philosophical Magazine A, 83, 3225-3246 (2003)
36. A. Baczmański, S.J. Skrzypek, Ch. Braham, W. Seiler and K. Wierzbanowski, Self-Consistent Diffraction Elastic Constants in Residual Stress Measurement with Grazing Incident Angle Geometry, Archives of Metallurgy, 48, 137-149 (2003)
37. A. Baczmański, S.J. Skrzypek, K. Wierzbanowski and C. Braham, Determination of thermal microstresses using grazing incidence X-ray diffraction, Revue de Metallurgie, 99 , 843-850 (2003)
38. A. Baczmański, C. Braham and W. Seiler, Anisotropy of microstresses in duplex stainless steel studied by diffraction and self-consistent modelling, Journal of Neutron Research, 11, 295-299 (2003)
39. A. Baczmański, R. Levy-Tubiana, M. Fitzpatrick and A. Lodini, Phase stresses in Al/SiCp metal matrix composite determined by modelling and neutron diffraction, Journal of Neutron Research, 12, 5-8 (2004)
40. F. Serban, A. Baczmański, E. Labbe, K. Wierzbanowski and A. Lodini, Study of Mechanical Behaviour of Austempered Ductile Iron using Self-consistent Model, Journal of Neutron Research, 12, 181-187 (2004)
41. K. Wierzbanowski, A. Baczmański, R. Wawszczak, B. Bacroix and A. Lodini, Residual Stress Variation in Polycrystalline Copper during Recrystallization, Journal of Neutron Research, 12, 201-205 (2004)
42. S. Wroński, K. Wierzbanowski, A. Baczmański, C. Braham and A. Lodini, Verification of Inter-

Granular Interaction in Deformation Models by Residual Stress Measurements, Journal of Neutron Research, 12, 9-14 (2004)
43. A. Baczmański, R. Levy-Tubiana, M.E. Fitzpatrick and A. Lodini, Elastoplastic properties of Al/SiCp metal matrix composite studied by self-consistent modelling and neutron diffraction, Acta Materialia, 52, 1565-1577 (2004)
44. A. Baczmański and C. Braham, Elastoplastic Properties of Duplex Steel Determined Using Neutron Diffraction and Self-Consistent Model, Acta Materialia, 59, 1133-1142 (2004)
45. A. Baczmański, C. Braham, W. Seiler and N.Shiraki, Multi-reflection Method and Grazing Incident Geometry Used for Stress Measurement by X-ray Diffraction, Surface and Coating Technology, 182 , 43-54 (2004)
46. A. Baczmański, C. Braham, W. Seiler, Evolution of plastic incompatibility stresses in duplex stainless steel determined by X-ray diffraction, Physica Status Solidi (a), 201, 2886-2899 (2004)
47. C. Braham, A. Baczmański, W. Seiler and N.Shiraki, Non-destructive analysis of surface stresses Using Grazing Incidence X-ray diffraction, Materials Science Forum, 490-491, 143-148 (2005)
48. F. Serban, A. Baczmański, E. Labbe, K. Wierzbanowski and A. Lodini, Effect of graphite inclusions on mechanical properties and thermal stresses in austempered ductile iron, Materials Science Forum, 490-491, 73-78 (2005)
49. K. Wierzbanowski, A. Baczmański, P. Lipiński, Elasto-plastic models of polycrystalline deformation and their applications (in polish) in: „Deformation heterogeneities in plastic formation and recrystallization processes" (ed. by H. Paul), pp. 173-190, IMIM, Polish Academy of Sciences, Kraków (2005)
50. K. Wierzbanowski, A. Baczmański, R. Wawszczak, J. Tarasiuk, Ph. Gerber, B. Bacroix and A. Lodini, Residual stress and stored energy during recrystallization in polycrystalline copper, Materials Science and Technology, 21, No.1 (2005)
51. K. Wierzbanowski, R. Wawszczak, A. Baczmański, J. Tarasiuk, Ph. Gerber, B. Bacroix and A. Lodini, Residual Stress and Stored Energy in Recrystallized Polycrystalline Copper, Archives of Metallurgy, 50, (2005)
52. C. Braham, A. Baczmański, W. Seiler and N.Shiraki, Non-destructive analysis of surface stresses Using Grazing Incidence X-ray diffraction, Materials Science Forum, 490-491, 143-148 (2005)
53. K. Wierzbanowski, A. Baczmański, S. Wroński, C. Braham and A. Lodini, "Tuning" of deformation models by residual stress measurements, Archives of Metallurgy, 50, 201-298, (2005)
54. R. Dakhlaoui, A. Baczmanski, C. Braham, S. Wronski, K. Wierzbanowski and E.C. Oliver, Effect of residual stresses on individual phase mechanical properties of austeno-ferritic duplex stainless steel, Acta Materialia, 54, 5027-5039 (2006)
55. A.Baczmanski, A. Tidu, P. Lipinski, M. Humbert, and K. Wierzbanowski, New Type of Diffraction Elastic Constants for Stress Determination, Materials Science Forum, 524-525, 235-240 (2006)
56. S. Wroński, A. Baczmański, K. Wierzbanowski, C. Braham, R. Dakhlaoui and E.C. Oliver, Quantitative Estimation of the Second Order Plastic Incompatibility Stresses in Textured Duplex Steel, Materials Science Forum, 524-525, 841-846 (2006)
57. K. Wierzbanowski, S. Wroński, A. Baczmański, M. Wróbel, C. Braham, M. Fitzpatrick, and A. Lodini, Residual Stresses Induced by Cross-Rolling, Materials Science Forum, 524-525, 63-68 (2006)
58. R. Dakhlaoui, C. Braham, A. Baczmański, S. Wronski, K. Wierzbanowski and E.C. Oliver, Effect of residual stresses on mechanical properties of duplex stainless steel studied by diffraction and self-consistent modelling, Materials Science Forum, 524-525, 185-190 (2006)
59. R. Dakhlaoui C. Braham, A. Baczmański, Mechanical Properties of Phases in Austeno-ferritic Duplex Stainless Steel - Surface Stresses Studied by X-ray Diffraction, Materials Science and Engineering (A), 444, 6-17 (2007)
60. S. Wroński, A. Baczmański, R. Dakhlaoui, C. Braham, K. Wierzbanowski and E.C. Oliver, Determination of Stress Field in Textured Duplex Steel Using TOF Neutron Diffraction Method, Acta Materialia, 55, 6219-6233 (2007)
61. K. Wierzbanowski, A. Baczmanski, P. Lipinski and A. Lodini, Elasto-plastic models of polycrystalline material deformation and their applications, Archives of Metallurgy and Materials, 52, 77-86 (2007)
62. A. Baczmanski K., Wierzbanowski, A. Benmarouane, A. Lodini, P.Lipinski and B. Bacroix, Stored energy and recrystallization process, Materials Science Forum, 539-534, 3335-3340 (2007)
63. K. Wierzbanowski, A. Baczmański, J. Tarasiuk, P. Lipinski, B. Bacroix and A. Lodini, Stored Energy

and Recrystallization in Cold Rolled Steel, Mater. Sci. Forum, 558-559, 1207-1212 (2007)
64. R. Dakhlaoui, C. Braham and A. Baczmański, Influence of chemical composition and residual stresses on mechanical properties of duplex stainless steel studied by X-ray and neutron diffraction, Journal of Neutron Research, 15, 131-137 (2007)
65. K.Wierzbanowski, S. Wroński, A. Baczmański, M. Wróbel, M. Fitzpatrick, Ch. Braham and A. Lodini, Variation of Residual Stresses during Cross-Rolling, Journal of Neutron Research, 15, 275-280 (2007)
66. A. Baczmański, K. Wierzbanowski, P. Lipiński, B. Bacroix and A. Lodini, Residual stresses, dislocation density and recrystallization process, Journal of Neutron Research, 15, 137-143 (2007)
67. R. Wawszczak, A. Baczmański, K. Wierzbanowski, S. Wroński, C. Braham and W. Seiler, Residual stress in α-brass during annealing, Mater. Sci. Forum, 571-572, 69-73 (2008)
68. S. Wroński, K. Wierzbanowski, A. Baczmański, C. Braham and A. Lodini, Corrections for residual stress in X-ray grazing incidence technique, Mater. Sci. Forum, 571-572, 289-294 (2008)
69. K. Wierzbanowski, A. Baczmański, J. Tarasiuk, P. Lipinski and A. Lodini, Stored energy of plastic and elastic origin and recrystallization, Mater. Sci. Forum, 571-572, 143-148 (2008)
70. R. Dakhlaoui, A. Baczmański, C. Braham, S. Wroński, K. Wierzbanowski and E.C. Oliver, Neutron Diffraction Study of Duplex Stainless Steel during Loading at 200°C, Mater. Sci. Forum, 571-572, 175-180 (2008)
71. A. Baczmański, A. Tidu, P. Lipinski and K. Wierzbanowski, Grain Stresses and Elastic Energy in Ferritic Steel under Uniaxial Load, Zeitschrift für Kristallographie, 27, 81-88 (2008)
72. A. Baczmański, N. Hfaiedh, M. François, K. Saanouni and K. Wierzbanowski, Determination of Stored Elastic Energy in Plastically Deformed Copper, Zeitschrift für Kristallographie, 27, 65-72 (2008)
73. S. Wroński, K. Wierzbanowski, A. Baczmański, C. Braham and A. Lodini, Corrections for Residual Stress in X-ray Grazing Incidence Technique, Archives of Metallurgy and Materials, 53, 275-281 (2008)
74. A. Baczmański, R. Dakhlaoui, C. Braham, K. Wierzbanowski, Examination of Mechanical Behaviour of Aged Duplex Steel Using X-Ray and Neutron Diffraction Methods, Archives of Metallurgy and Materials, 53, 89-96 (2008)
75. A. Baczmanski, P. Lipinski, A. Tidu, K. Wierzbanowski and B. Pathiraj, Quantitative estimation of incompatibility stresses and elastic energy stored in ferritic steel, J. Appl. Cryst, 41, 854–867 (2008)
76. A. Baczmański, N. Hfaiedh, M. François, K. Wierzbanowski, Plastic Incompatibility Stresses, Stored Elastic Energy in Plastically Deformed Copper, Materials Science and Engineering: A, 501 153–165 (2009)
77. S. Wroński, K. Wierzbanowski, A. Baczmański, A. Lodini, Ch. Braham and W. Seiler, X-ray grazing incidence technique – corrections in residual stress measurement – A Review, Powder Diffraction Suppl., 24, S1-S15 (2009)
78. A. Nady, H. Bonnefoy, V. Klosek, M. H. Mathon, A. Lodini and A. Baczmanski, Finite Element analysis and Neutron Diffraction Evaluation of Residual Stresses in Stellite Coating Produced by PTA Process, Advances in X ray Analysis, 52 454-461 (2009)
79. L.Le Joncour, B.Panicaud, A.Baczmański, M.Francois, C.Braham, A.Paradowska, S.Wroński, R.Chiron, Damage in duplex steels studied at mesoscopic and macroscopic scales, Mechanics of Materials, 42 (2010) 1048–1063
80. A.Baczmański, R.Wawszczak, W.Seiler, C.Braham, S.Wroński, M.Wróbel, K.Wierzbanowski, Incompatibility Stresses and Elastic Energy Stored in Polycrystalline Materials, Materials Science Forum, 638-642 (2010) 3827-3832
81. R.Wawszczak, A.Baczmański, C.Braham, W.Seiler, M.Wróbel, K.Wierzbanowski, Evolution of Residual Stresses and Stored Elastic Energy in Ferritic Steel During Recovery Process, Materials Science Forum, 652 (2010) 279-284
82. A.Baczmański, M.Marciszko, K.Wierzbanowski, G.Buturyn, J.Bonarski, L.Tarkowski, Application of Göbel Mirror for Stress Measurement Using Grazing Incidence Geometry, Materials Science Forum, 652 (2010) 249-254
83. B. Panicaud, K. Saanouni, A. Baczmanski, M. François, L. Cauvin, L. Le Joncour, Theoretical modelling of ductile damage in duplex stainless steels - Comparison between two micro-mechanical elasto-plastic approaches, Computational Materials Science, 50, (2011) 1908–1916.

84. B.Panicaud, L.Cauvin, L.Le Joncour, A.Baczmański, K.Saanouni, M.Francois, Analysis of ductile damage – Comparison between micromechanical models and neutron diffraction experiments, Materials Science Forum, 681, (2011) 91-96
85. M.Wroński, K.Wierzbanowski, A.Baczmański, P.Lipiński, B.Bacroix, W.Seiler, A.Lodini, Influence of grain-matrix interaction intensity and lattice rotation definition on predicted residual stresses and textures, Materials Science Forum, 681, (2011) 405-410
86. A.Gaj, L.Le Joncour, A.Baczmański, S.Wroński, B.Panicaud, M.Francois, C.Braham, A.Paradowska, Localization of Stresses in Polycrystalline Grains Measured by Neutron Diffraction and Predicted by Self-consistent Model, Materials Science Forum, 681, (2011) 103-108
87. R.Wawszczak, A.Baczmański, C.Braham, W.Seiler, M.Wróbel, K.Wierzbanowski, Residual stresses in austenitic steel during plastic deformation and recovery processes, Materials Science Forum, 681, (2011) 223-228
88. M.Marciszko, A.Baczmański, N.Zazi, J.Chopart, A.Lodini, K.Wierzbanowski, Stress in aluminium alloys measured using Göbel mirror as a primary beam optics of X-ray diffractometer, Materials Science Forum, 681, (2011) 393-398
89. R.Wawszczak, A.Baczmański, C.Braham, W.Seiler, M.Wróbel, K.Wierzbanowski, A.Lodini, Residual stress field in steel samples during plastic deformation and recovery processes, Philosophical Magazine, 91, (2011) 2263–2290
90. A. Baczmanski, L. Le Joncour, B. Panicaud, M. Francois, C. Braham, A. M. Paradowska, S. Wroński, S. Amara and R. Chirone, Neutron time-of-flight diffraction used to study aged duplex stainless steel at small and large deformation until sample fracture, Journal of Applied Crystallography, 44, (2011) 966-982.
91. K.Wierzbanowski, M.Wroński, A.Baczmański, B.Bacroix, P.Lipiński, A.Lodini, Problem of lattice rotation due to plastic deformation. Example of rolling of F.C.C materials, Archives of Metallurgy and Materials, 56 (2011) 575-584.
92. A.M. Paradowska, A. Baczmański, S.Y Zhang, A. Rao, P.J. Bouchard, J. Kelleher, In-situ Neutron Diffraction Studies of Various Metals on Engin-X at ISIS, Current Advances in Materials and Processes (Iron and Steel Institute of Japan – CAMP-ISIJ), 24, (2011) 539-542.
93. A. Baczmański, A. Gaj, L. Le Joncour, S. Wroński, M. François, B. Panicaud, C. Braham & A.M. Paradowska, Study of stress localisation in polycrystalline grains using self-consistent modelling and neutron diffraction, Philosophical Magazine, 92 (2012) 3015-3035.
94. S.Wroński, J.Tarasiuk, B.Bacroix, A.Baczmański, Investigation of plastic deformation heterogeneities in duplex steel by EBSD. Materials Characterization, 73 (2012) 52 – 60.
95. M.Marciszko, A.Baczmański, K.Wierzbanowski, M.Wróbel, C.Braham, J.-P.Chopart, A.Lodini, J.Bonarski, L.Tarkowski, N.Zazi, Application of multireflection grazing incidence method for stress measurements in polished Al–Mg alloy and CrN coating, Applied Surface Science, 266 (2013) 256–267.
96. M.François, B.Panicaud, L.L.Joncour, A.Baczmański, A.Paradowska, S.Wroński, E.Gadalińska, Comparison of strain/stress behaviour of a duplex stainless steel between mesoscopic and macroscopic scales by neutron measurements extended to the necking range, Thin Solid Films, 530 (2013) 62–65.
97. S.Wroński, M.Wróbel, A.Baczmański, K.Wierzbanowski, Effects of cross-rolling on residual stress, texture and plastic anisotropy in f.c.c. and b.c.c. metals, Materials Characterization, 77 (2013) 116-126.
98. M.Marciszko, A.Baczmański, M.Wróbel, W.Seiler, C.Braham, J.Donges, M.Śniechowski, K.Wierzbanowski, Multireflection grazing incidence diffraction used for stress measurements in surface layers, Thin Solid Films, 530 (2013) 81–84.
99. M.Marciszko, A.Baczmański, M.Wróbel, W.Seiler, C.Braham, K.Wierzbanowski, Different grain interaction models used for interpretation of lattice strain data collected using grazing incidence X-ray diffraction, Materials Science Forum, 768-769 (2014) 26-30.
100. K.Wierzbanowski, M.Wroński, A.Baczmański, P.Lipiński, B.Bacroix, A.Lodini, Effect of intergranular interaction and lattice rotation on predicted residual stress and textures. Case of austenite and ferrite, Materials Science Forum, 772 (2014) 97-101.
101. H.Yahyaoui, H.Sidhom, C.Braham, A.Baczmański, Effect of interlamellar spacing on the elastoplastic behavior of C70 pearlitic steel: Experimental results and self-consistent modeling, Materials and Design, 55 (2014) 888–897.

102. H.Yahyaoui, H.Sidhom, C.Braham, A.Baczmański, M.Francois, W.Seiler, Effect of Interlamellar spacing on the monotonic behavior of C70 pearlitic steel,Advanced Materials Research, 996 (2014) 88-93.
103. M.Marciszko, A.Stanisławczyk, A.Baczmański, K.Wierzbanowski, W.Seiler, C.Braham, M.Wróbel, B.Szaraniec, In-depth distribution of stresses measured by multireflection grazing incidence diffraction, Materials Science Forum, 772 (2014) 143-147.
104. M.Wroński, K.Wierzbanowski, A.Baczmański, S.Wroński, B.Bacroix, M.Wróbel, A.Lodini, Modification of stress and texture distributions in asymmetrically rolled titanium,Advanced Materials Research, 996 (2014) 688-693.
105. S.Wroński, A.Baczmański, A. Gaj, K.Wierzbanowski, M. Fitzpatrick, V. Klosek, A. Lodini, M.Marciszko, Neutron diffraction study of elastoplastic behaviour of Al/SiCp metal matrix composite during tensile loading and unloading, Materials Science Forum, 772 (2014) 117-121.
106. M.Marciszko, A.Baczmański, M.Wróbel, W.Seiler, C.Braham, K.Wierzbanowski, New developments of multireflection grazing incidence diffraction, Advanced Materials Research, 996 (2014) 147-154.

107. K.Wierzbanowski, A.Baczmański, R.Wawszczak, M.Wroński, M.Wróbel, A.Lodini, Ch. Bracham, W.Seiler, Residual stress in ferrite and austenite after rolling and recovery processes, Materials Science Forum, 772 (2014) 79-83 .
108. M.Marciszko, A.Baczmański, K.Wierzbanowski, J.P.Chopart, A.Lodini, N.Zazi, Ch.Braham, W.Seiler, Stress measurements in polished Al–Mg alloy and CrN coating using multireflection grazing incidence method, Materials Science Forum, 783-786 (2014) 2091-2096.
109. M.Wroński, K.Wierzbanowski, Ł.Pytlik, B.Bacroix, M.Wróbel, A.Baczmański, A.Lodini, Study of Microstructure, Texture and Residual Stress in Asymmetrically Rolled Titanium, Materials Science Forum, 777 (2014) 1-6.
110. A.Baczmański, E.Gadalińska, S.Wroński, L.L.Joncour, B.Panicaud, M.François, C.Braham, V.Klosek, A,Paradowska, Study of Stresses in Texture Components Using Neutron Diffraction, Materials Science Forum, 768-769 (2014) 289-295.
111. A.Baczmański, E.Gadalińska, S.Wroński, C.Braham, W.Seiler, M.François, L.L.Joncour, B.Panicaud, T.Buslaps, H.Yahyaoui, H.Sidhom, Y.Zhao, Study of mechanical behaviour of polycrystalline materials at the mesoscale using high energy X-ray diffraction, Advanced Materials Research, 996 (2014) 118-123.
112. A.Baczmański, E.Gadalińska, C.Braham, S.Wroński, L.L.Joncour, B.Panicaud, M.Francois, V.Klosek, Study of micromechanical behaviour of two phase polycrystalline materials using diffraction and self consistent model, Materials Science Forum, 783-786 (2014) 2059-2064.
113. M. Marciszko, A. Baczmański, M. Wróbel, W. Seiler, C. Braham, S. Wroński and R. Wawszczak, Problem of elastic anisotropy and stacking faults in stress analysis using multireflection grazing-incidence X-ray diffraction, Journal of Applied Crystallography, 48 (2015) 492–509.
114. M. Marciszko, A. Baczmański, C. Braham, M. Wróbel, W. Seiler, S. Wroński and K. Berent, Analysis of stresses and crystal structure in the surface layer of hexagonal polycrystalline materials: a new methodology based on grazing incidence diffraction. J. Appl. Cryst., 49 (2016) 85-102.
115. R.Wawszczak, A. Baczmański, M.Marciszko, M.Wróbel, T. Czeppe, K. Sztwiertnia, C. Braham, K. Berent, Evolution of microstructure and residual stress during annealing of austenitic and ferritic steels. Materials Characterization. 112 (2016) 238–251
116. A. Baczmański, Y. Zhao, E. Gadalińska, L. Le Joncour, S. Wroński, C. Braham, B. Panicaud, M. François, T. Buslaps, K. Soloducha M., Elastoplastic deformation and damage process in duplex stainless steels studied using synchrotron and neutron diffractions in comparison with a self-consistent model, International Journal of Plasticity. 81 (2016), 102–122
117. S. Wronski, K. Wierzbanowski, M. Jędrychowski, J. Tarasiuk, M. Wronski, A. Baczmanski, B. Bacroix, Microstructure evolution of titanium after tensile test, Materials Science and Engineering A, 656 (2016) 1–11
118. A. Uniwersał, M. Wróbel, , S. Wroński, , I. Kalemba-Rec, M. Wroński, K. Wierzbanowski, A. Baczmański, B. Bacroix, The effect of low deformation asymmetric rolling on microstructure and texture of the polycrystalline copper, Arch. Metall. Mater., 61 (2016), 2183–2188.
119. M. Marciszko, A. Baczmański, S. Wroński, M. Wróbel, C. Braham, Multireflexion X ray diffraction method for residual stress investigation in the Ti-based biomaterials, Inżynieria Biomateriałów =

Engineering of Biomaterials, 138 (2016) 18.
120. E. Gadalińska, A. Baczmański, Y. Zhao, L. Le Joncour, S. Wroński, B. Panicaud, M. Francois, C. Braham, T. Buslaps, Advanced Deformation Stages in Duplex Steel Investigated using Neutron and Synchrotron Radiation, Fatigue of Aircraft Structures, 1 (2016) 80-91.
121. Y. Zhao, L. Le Joncour, A. Baczmański, E. Gadalińska, S. Wroński, B. Panicaud, M. François, C. Braham, T. Buslaps, Stress distribution correlated with damage in duplex stainless steel studied by synchrotron diffraction during plastic necking, Materials and Design, 113 (2017) 157–168.
122. M. Marciszko, A. Baczmański, C. Braham, M. Wróbel, S. Wroński, G. Cios, Stress measurements by multi-reflection grazing-incidence X-ray diffraction method (MGIXD) using different radiation wavelengths and different incident angles, Acta Materialia, 123 (2017) 157–166.
123. Y. Zhao, S. Wroński, A. Baczmański, L. Le Joncour, M. Marciszko, T. Tokarski, M. Wróbel, M. François, B. Panicaud, Micromechanical behaviour of a two-phase Ti alloy studied using grazing incidence diffraction and a self-consistent model, Acta Materialia 136 (2017) 402-414.
124. A. Uniwersał, M.Wroński, M.Wróbel, K.Wierzbanowski, A.Baczmański, Texture effects due to asymmetric rolling of polycrystalline copper, Acta Mater. 139 (2017) 30-38.
125. S. Wronski, K. Wierzbanowski, M. Jędrychowski, J. Tarasiuk, M. Wronski, A. Baczmanski, B. Bacroix, A. Lodini, Microstructure and residual stress in T40 titanium after tensile test, Materials Science Forum, 905 (2017) 17-24.
126. C. Braham, A. Baczmański, G. Gonzalez, H. Sidhom Habib, E. Gadalińsk, S. Wroński, T. Buslaps, R. Wawszczak, Study of stress partitioning in a 0.68 wt\%C pearlitic steel using high energy X-ray synchrotron radiation, Materials Research Forum LLC, (Materials Research Proceedings) 2 (2017) 521–526.
127. E. Gadalińska, A. Baczmański, S. Wroński, M. Wróbel, A. Lodini, V. Klosek, Ch. Scheffzük, Neutron diffraction study of elastoplastic behaviour of Al/SiCp metal matrix composite. Materials Science Forum, 905 (2017) 66-73.
128. Y. Zhao, L. Le Joncour, A. Baczmanski, M. François S. Wronski, B. Panicaud, E. Gadalinska, C. Braham, T. Buslaps, A. Paradowska, Elastoplastic Deformation and Damage Process in Duplex Steel Studied Using Synchrotron and Neutron Diffraction, Materials Science Forum, 905 (2017) 9-16.
129. E. Gadalińska,, A. Baczmański, S. Wroński, M. Wroński R. Wawszczak, The role of intergranular stresses in plastic deformation studied using a diffraction and self-consistent model. Materials Research Forum LLC, (Materials Research Proceedings) 2 (2017) 551–556.
130. A Kmita, D Drożyński, A Roczniak, M Gajewska, M Marciszko, K Górecki, A. Baczmański, Adhesive hybrid nanocomposites for potential applications in moulding sands technology, Composites Part B: Engineering 146 (2018) 124-131.
131. M. Marciszko, A. Baczmański, M. Klaus, Ch. Genzel, A. Oponowicz, S. Wroński, M. Wróbel, C. Braham, H. Sidhom, R. Wawszczak, A multireflection and multiwavelength residual stress determination method using energy dispersive diffraction. J. Appl. Crystal. 51 (2018) 732-745.
132. A. Baczmański, S. Wroński, E. Gadalińska, Y. Zhao, L. Le Joncour, C. Braham, C. Scheffzük and P. Kot, Diffraction methods and scale transition model used to study evolution of intergranular stress and micro-damage phenomenon during elasto-plastic deformation, Materials Research Forum LLC, Materials Research Proceedings 4 (2018) 3-8.
133. M. Wroński, K. Wierzbanowski, A. Baczmański, S. Wroński, M. Wojtaszek, R. Wawszczak, M. Muzyka Examination of deformation mechanisms of magnesium AZ31: in situ X-ray diffraction and self-consistent modelling. Materials Research Forum LLC, Materials Research Proceedings 4 (2018) 11-16.
134. E. Gadalińska, A. Baczmański, S. Wroński, M. Wróbel, Ch. Scheffzük, The hardening in alloys and composites and its examination with a diffraction and self-consistent model. Fatigue of Aircraft Structures 10 (2018) 31–46
135. E. Gadalińska, A. Baczmański, S. Wroński, P. Kot, M. Wroński, M. Wróbel, Ch. Scheffzük, G. Bokuchava, K. Wierzbanowski, Neutron Diffraction Study of Phase Stresses in Al/SiCp Composite During Tensile Test, Metals and Materials International, 25 (2019) pp 657–668.
136. A. Uniwersał, M. Wróbel, K. Wierzbanowski, S. Wroński, A. Baczmański Mechanical and Microstructural characteristics of polycrystalline copper rolled asymmetrically to a high deformation level Materials Characterization, 148 (2019) 214–223
137. M. Marciszko, A. Oponowicz, A. Baczmański, M. Wróbel, Ch. Braham, R. Wawszczak,

Multireflection grazing-incidence X-ray diffraction: a newapproach to experimental data analysis. J. Appl. Cryst., 52 (2019) 409–1421
138. A. Uniwersał, M. Wróbel, K. Wierzbanowski, S. Wroński, A. Baczmański, Rolling asymmetry effects on recrystallization process and on properties andmicrostructure of annealed copper. Materials Characterization, 153 (2019) 136–147
139. M. Marciszko-Wiąckowska, K. E. Hnida-Guta, A. Baczmański, M. Wróbel, Topography and residual stress analysis for Cu/Au/Co multilayered system. Surface & Coatings Technology 380 (2019) 125060
140. P. Kot, A. Baczmański, E. Gadalińska, S. Wroński, M. Wroński, M. Wróbel, G. Bokuchava, Ch. Scheffzük, K. Wierzbanowski, Evolution of phase stresses in Al/SiCp composite during thermal cycling and compression test studied using diffraction and self-consistent models. Journal of Materials Science & Technology, 36 (2020) 176–189
141. E.Gadalińska, A.Baczmański, C.Braham, G.Gonzalez, H.Sidhom, S.Wroński, T.Buslaps, K.Wierzbanowski, Stress localisation in lamellar cementite and ferrite duringelastoplastic deformation of pearlitic steel studied usingdiffraction and modelling. International Journal of Plasticity 127, 2020, 102651
142. K. Skowron, E. Dryzek, M. Wróbel, P. Nowak, Marianna Marciszko-Wiąckowska, Léa Le Joncour, Manuel François, Benoit Panicaud, Andrzej Baczmański, Gradient microstructure induced by surface mechanical attrition treatment (SMAT) in magnesium studied using positron annihilation spectroscopy and complementary methods. Materials 13 (2020) 1–24. https://www.mdpi.com/1996-1944/13/18/4002/pdf
143. A. Oponowicz, M. Marciszko-Wiąckowska, A. Baczmański, M. Klaus, Ch. Genzel, S. Wroński, K. Kollbek, M. Wróbel, Gradient of residual stress and lattice parameter in mechanically polished tungsten measured using classical X-rays and synchrotron radiation, Metallurgical and Materials Transactions. A, Physical Metallurgy and Materials 51 (2020) 5945–5957. https://link.springer.com/content/pdf/10.1007/s11661-020-05967-y.pdf
144. M. Wroński, K. Wierzbanowski, R. Malik, S. Wroński, D. Wojtas, A. Baczmański, J. Tarasiuk, Microstructure characteristics of ECAP processed 1050 aluminum after deformation and 5 years later, Metals and Materials International 27 (2020) 2720–2731. https://doi.org/10.1007/s12540-020-00817-3
145. E. Gadalińska, A. Baczmański, S. Wroński, L. Le Joncour, C. Braham, M. François, B. Panicaud, K. Wierzbanowski, Direct determination of phase stress evolution in duplex steel using synchrotron diffraction, Materials Science & Engineering A 801 (2021) 140355. https://doi.org/10.1016/j.msea.2020.140355
146. A. Baczmański, P. Kot, S. Wroński, M. Wróbel, M. Wroński, J. Pilch, M. Muzyka, K. Wierzbanowski, Y. Zhao, L. Le Joncour, M. François, B. Panicaud, Direct diffraction measurement of critical resolved shear stresses and stress localisation in magnesium alloy, Materials Science & Engineering A, 801 (2021) 140400. https://doi.org/10.1016/j.msea.2020.140400
147. A. Baczmański, M. Wroński, P. Kot, S. Wroński, A. Łabaza, K. Wierzbanowski, A. Ludwik, M. Marciszko-Wiąckowska, The role of basal slip in the generation of intergranular stresses in magnesium alloy studied using X-ray diffraction and modelling, Materials and Design, 202 (2021), 109543. https://doi.org/10.1016/j.matdes.2021.109543
148. P. Nikiel, M. Wróbel, S. Szczepanik, M. Stępień, K. Wierzbanowski, A. Baczmański, Microstructure and mechanical properties of Titanium grade 23 produced by selective laser melting, Archives of Civil and Mechanical Engineering 21 (2021) 1-16. https://link.springer.com/article/10.1007/s43452-021-00304-5
149. M. Marciszko-Wiąckowska, A. Oponowicz, A. Baczmański, Ch. Braham, M. Wątroba, M. Wróbel, M. Klaus, Ch. Genzel, A novel approach for nondestructive depth-resolved analysis of residual stress and grain interaction in the near-surface zone applied to an austenitic stainless steel sample subjected to mechanical polishing, Measurement 194 (2022) 111016 https://doi.org/10.1016/j.measurement.2022.111016

CHAPTERS IN BOOKS

1. A.Baczmański, K.Wierzbanowski, Mesure des macrocontraintes par diffraction dans les materiaux texture. In: Rayonnement synchrotron, rayons X et neutrons au service des matériaux. Eds. A. Lodini and T. Boudin, Edp Sciences (2012) 71-98.
2. K.Wierzbanowski, A.Baczmański, P.Lipinski, Modele autocoherent de la deformation elastoplastique et ses applications. In: Rayonnement synchrotron, rayons X et neutrons au service des matériaux. Eds. A. Lodini and T. Boudin, Edp Sciences (2012) 380-409.