

2016

Monographs:

1. **G. Cempura, A. Gruszczyński and A. Czyrska-Filemonowicz** (eds) – *Proceedings of the 5th Stanisław Gorczyca European School on Electron Microscopy and Electron Tomography*, Kraków, 5-8.07.2016, Wydawnictwo Naukowe Akapit, ISBN 978-83-63663-81-0, Kraków 2016, pp. 1-405

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1. **B. Rutkowski, A. Gil, A. Czyrska-Filemonowicz** - *Microstructure and chemical composition of the scale formed on Sanicro 25 steel tubes after fireside corrosion*, Corrosion Science, 102(2016)373-383; JCR; DOI: 10.1016/j.corsci.2015.10.030
2. **Kruk, G. Cempura, S. Lech, A. Czyrska-Filemonowicz** - *STEM-EDX and FIB-SEM tomography of Allvac 718Plus superalloy*, Archives of Metallurgy and Materials Science 61(2016)535-542; JCR
3. P. Mengucci, G. Barucca, A. Gatto, E. Bassoli, L. Denti, F. Fiori, E. Girardin, P. Bastianoni, **B. Rutkowski, A. Czyrska-Filemonowicz** - *Effects of thermal treatments on microstructure and mechanical properties of a Co-Cr-Mo-W biomedical alloy produced by laser sintering*, Journal of the Mechanical Behavior of Biomedical Materials; 60(2016)106-117; JCR
4. L. Gozzelino, V. Casalegno, G. Ghigo, T. Moskalewicz, **A. Czyrska-Filemonowicz, M. Ferraris** - *He-irradiation effects on glass-ceramics for joining of SiC-based materials*, Journal of Nuclear Materials; 472(2016)28-34; JCR; DOI: 10.1016/j.jnucmat.2016.01.024
5. **B. Rutkowski, A. S. Galanis, A. Gil, A. Czyrska-Filemonowicz** - *A novel approach to to characterization of thin oxide scales*, Materials Letters, 173(2016)235-238; JCR
6. L. Kühn, A-K. Herrmann, **B. Rutkowski**, M. Özaslan, M. Nachtegaal, M. Klose, L. Giebeler, N. Gaponik, J. Eckert, T. J. Schmidt, **A. Czyrska-Filemonowicz, A. Eychmüller** – *Alloying behaviour of self-assembled noble metal nanoparticles*, Chemistry – A European Journal, on-line: 06/2016; JCR, 06(2016), DOI: 10.1002/chem.201602487
7. A. G. Sabato, **G. Cempura, D. Montinaro, A. Chrysanthou, M. Salvo, E. Bernardo, M. Secco, F. Smaecetto** – *Glass-ceramic sealant for solid oxide fuel cells application: characterization and performance in dual atmosphere*, Journal of Power Sources, 328(2016)262-270; JCR; DOI: 10.1016/j.jpowsour.2016.08.010

8. M. Oezaslan, W. Liu, M. Nachtegaal, A.I. Frenkel, **B. Rutkowski**, M. Werheid, A.-K. Herrmann, C. L. Bonnaud, H. C. Yilmaz, N. Gaponik, **A. Czyrska-Filemonowicz**, A. Eychmüller, T. J. Schmidt – *Homogeneity and Chemical Distribution of Self-Assembled Bimetallic Pd-Pt Aerogels prepared by a spontaneously one-step gelation process*, Physical Chemistry Chemical Physics, 18(2016)20640-20650; JCR, DOI: 10.1039/C6CP03527B
9. W. Liu, D. Haubold, **B. Rutkowski**, M. Oschatz, M. Werheid, Ch. Ziegler, A.-K. Herrmann, D. Geiger, T. Gemming, L. Borchardt, B. Terlan, S. Kaskel, **A. Czyrska-Filemonowicz**, A. Eychmüller – *Self-supporting Hierarchical Porous PtAg Alloy Nanotubular Aero-gels as Highly Active and Durable Electrocatalysts*, Chemistry of Materials, 28(2016)6477-6483; JCR, DOI:10.1021/acs.chemmater.6b01394
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11. K. Zheng, M. Lu, **B. Rutkowski**, X-Y. Dai, N. Taccardi, **U. Stachewicz**, **A. Czyrska-Filemonowicz**, N. Hüser, A. R. Boccacini – *ZnO quantum dots modified bioactive glass nanoparticles with controlled release of Zn ions, fluorescence and osteogenic properties*, Journal of Materials Chemistry B, 4(2016)7936-7949; DOI: 10.1039/C6TB02053D; JCR
12. F. Mao, M. Taher, **O. Kryshnal**, **A. Kruk**, **A. Czyrska-Filemonowicz**, M. Ottosson, A.M. Andersson, U. Wiklund, U. Jansson - *A combinatorial study of gradient Ag-Al thin films: microstructure, phase formation, mechanical and electrical properties*, ACS Applied Materials & Interfaces, 8(44)(2016)330635-330643; JCR; DOI: 10.1021/acsami.6b10659
13. F. Muhaffel, **G. Cempura**, M. Menekse, **A. Czyrska-Filemonowicz**, N. Karaguler, H. Cimenoglu - *Characteristics of multi-layer coatings synthesized on Ti6Al4V alloy by micro-arc oxidation in silver nitrate added electrolytes*, Surface and Coatings Technology, 307, Part A (2016)308–315; JCR; DOI: 10.1016/j.surfcoat.2016.09.002
14. T. Gancarz, **G. Cempura** - *Characterization of ZnAl cast alloys with Li addition*, Materials & Design, 104 (2016)51–59; JCR; DOI: 10.1016/j.matdes.2016.05.019
15. T. Gancarz, **G. Cempura**, W. Skuza - *Characterization of ZnAl cast alloys with Na addition*, Materials Characterization, 111 (2016)147–153; JCR; DOI: 10.1007/j.matchar.2015.11.025
16. T. Gancarz, J. Pstrus, **G. Cempura**, K. Berent - *Influence of Li Addition to Zn-Al Alloys on Cu Substrate During Spreading Test and After Aging Treatment*, Journal of Electronic Materials (2016); available on-line: 08/2016; JCR; DOI:10.1007/s11664-016-4815-8

17. **J. Karbowniczek, S. Metwally, G. Cempura, A. Czyrska-Filemonowicz** - *The influence of the reaction time in the micro-arc oxidation process on the microstructure of coatings deposited on Ti6Al7Nb alloy*, Key Engineering Materials, 687 (2016) 106-110

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1. J. Błachnio, A. Kułaszka, **M. Ziętara, A. Czyrska-Filemonowicz** - *Microstructure analysis of jet engine turbine blade after creep deformation induced during service*, Combustion Engines, 2/165(2016)41-45
2. **G. Cempura, B. Rutkowski, J. Jelita Rydel, K. Cieszyński, A. Czyrska-Filemonowicz** – *Microstructural evolution of HR6W alloy during ageing at high temperatures*, Inżynieria Materiałowa, 5(213) (2016)167-171
3. **O. Dziuba, A. Kruk, G. Michta** – *Microstructural characterization and mechanical properties of electron beam welded Allvac718 butt welded joint*, Inżynieria Materiałowa, 6(214) (2016)150-154
4. **B. Rutkowski, A. Gil, W. Ratuszek, B. Woźnik, A. Czyrska-Filemonowicz** – *The microstructure of Sanicro25 steel after steam oxidation studied by advanced electron microscopy and spectroscopy techniques*, Inżynieria Materiałowa, 5(213) (2016)201-205
5. B. Dubiel, P. Indyka, **A. Kruk, I. Kalembe-Rec, T. Moskalewicz, K. Berent, M. Gajewska** - *Characterisation of TCP phases in CMSX-4 single crystal superalloys subjected to high temperature annealing and creep deformation*, Inżynieria Materiałowa 4(212) (2016)150-155

Patents:

1. J. Stodolny, K. Stodolna, H. Adrian, R. Kawalla, **A. Czyrska-Filemonowicz** – *Sposób wytwarzania nieorientowanych blach elektrotechnicznych ze stali Al-Fe-Si (Fe–Al-Si steel for non-oriented electrotechnical steel sheets and a process for the production of the steel sheets)*, opis patentowy wynalazku: PL-223497 B1; decyzja Urzędu Patentowego RP z dnia 18.02.2016, opublikowana w dniu 31.10.2016.
2. J. Stodolny, K. Stodolna, H. Adrian, R. Kawalla, **A. Czyrska-Filemonowicz** - *Sposób wytwarzania nieorientowanych blach elektrotechnicznych ze stali Al-Fe (Fe–Al steel for non-oriented electrotechnical steel sheets and a process for the production of the steel sheets)*, opis patentowy wynalazku PL-2234496 B1; decyzja Urzędu Patentowego RP z dnia 18.02.2016, opublikowana w dniu 31.10.2016.
3. J.A. Blum, J. Kowal, T. Niezgodziński, T. Machniewicz, K. Biliński, **G. Michta, A.**

Kruk, T. Łata - *Sposób wytwarzania spawanych blachownic, zwłaszcza dźwigarów suwnicowych (Method for producing welded plate girders, preferably the overhead crane girders)*, opis patentowy wynalazku: PL-222796 B1, decyzja Urzędu Patentowego RP z dnia 25.11.2015, opublikowana w dniu 30.09.2016.

Conference proceedings:

1. **A. Kruk, A. Czyrska-Filemonowicz** - *The 3D imaging and metrology of microstructural elements in innovative materials for clean energy systems and aeronautics*, 9th International conference on Processing and Manufacturing of Advanced Materials, THERMEC'2016, 29.05-03.06.2016, Graz, Austria; Book of Abstracts, Graz University of Technology, Medienfabrik Graz 2016, p. 316-317 (extended abstract)
2. **B. Rutkowski, A. Gil, W. Ratuszek, B. Woźnik, A. Czyrska-Filemonowicz** – *The microstructure of Sanicro25 steel after steam oxidation studied by advanced electron microscopy and spectroscopy techniques. Abstract book of XXI conference on Advanced Materials and Technologies, AMT'2016, 5-8.06.2016, Rawa Mazowiecka, abstract no CO8*
3. **S. Lech, K. Kulawik, A. Kruk, A. Czyrska-Filemonowicz** - *Characterisation of phases strengthening Incoloy 718 and Allvac 718Plus superalloys*, *ibid*, abstract no DP7
4. **G. Cempura, B. Rutkowski, J. Jelita Rydel, K. Cieszyński, A. Czyrska-Filemonowicz** – *Microstructural evolution of HR6W alloy during ageing at high temperatures*, *ibid*, abstract no BO1
5. **O. Dziuba, A. Kruk, G. Michta** – *Microstructural characterization and mechanical properties of electron beam welded Allvac718 butt welded joint*, *ibid*, abstract no EP4
6. **A. Kruk, A. Czyrska-Filemonowicz** – *Application of different imaging techniques for characterisation and visualisation of micro-and nanostructural elements in 718Plus superalloy*, Proc. European Microscopy Congress EMC'2016, 28.08-2.09.2016, Lyon; O. Stephan, M. Hytch, T. Epicier (eds), Wiley-VCH Verlag, Vol. 2.2, 2016, pp. 882-883
7. **S. Lech, A. Kruk, B. Rutkowski, A. Wusatowska-Sarnek, A. Czyrska-Filemonowicz** – *Microstructure investigation of Allvac 718Plus superalloy after heat treatment with temperature gradient*, *ibid*, pp. 1122-1123

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9. **O. Kryształ, A. Minenkov, P. Ferreira** - *On the mechanism of the metal-induced crystallization effect: an in situ TEM study of interface interaction in nanosized Au/Ge films*, *ibid*, pp. 7-8
10. **U. Stachewicz, P. Szewczyk, A. Kruk, A. H. Barber, A. Czyrska-Filemonowicz** - *3D imaging via FIB-SEM tomography at nanoscale for tissue engineering applications*, Proc. European Microscopy Congress EMC'2016, 28.08-2.09.2016, Lyon; O. Stephan, M. Hytch, T. Epicier (eds), Wiley-VCH Verlag, Vol. 3, 2016, pp. 318-319
11. **J. Karbowniczek, A. Gruszczyński, A. Kruk, A. Czyrska-Filemonowicz**- *Application of FIB-SEM tomography for ceramic coatings deposited on titanium alloy and material-cell interfaces*, *ibid*, pp. 322-323
12. E. Girardin, G. Barucca, P. Mengucci, F. Fiori, E. Bassoli, A. Gatto, L. Iuliano, **B. Rutkowski** - *Biomedical Co-Cr-Mo components produced by Direct Metal Laser Sintering*, Nanotechnology 2015: 12th international conference on Nanosciences & Nanotechnologies & 8th international symposium on Flexible organic electronics, 4-11.07. 2015, Thessaloniki, Greece, Materials Today: 3(2016)889-897
13. **A. Kruk, A. Czyrska-Filemonowicz** - *Metrology and 3D imaging of microstructural elements in materials for extreme conditions and environmentally friendly power plants*, 11th Polish-Japanese Seminar on Micro and Nano Analysis (abstract book), 11-14.09.2016, Gniez, p. 31
14. **A. Czyrska-Filemonowicz, P.A. Buffat, A. Kruk, K. Kulawik** - *Characterisation and metrology of γ' and γ'' nanoparticles in Inconel 718 studied by advanced electron microscopy, spectroscopy and tomography techniques*, *ibid*, p. 24
15. **J. Karbowniczek, A. Gruszczyński, A. Kruk, A. Czyrska-Filemonowicz** - *Visualization of the interface between cells and ceramic coating surface by electron microscopy and tomography techniques*, *ibid*, p. 49
16. **J. Karbowniczek, S. Metwally, G. Cempura, A. Czyrska-Filemonowicz** - *Functional coatings deposited on titanium alloy by micro-arc oxidation for improved bone-implant integration*, E-MRS Fall Meeting, Special session: Advanced Materials and Technologies for Bone Engineering; 22-23.09.2016, Warszawa (abstract)
17. **U. Stachewicz, P. Szewczyk, A. Kruk, A. H. Barber, A. Czyrska-Filemonowicz** – *2D and 3D image analysis of electrospun fibre scaffolds for bone tissue engineering*, *ibid*

18. **G. Cempura, A. Gruszczyński, K. Płońska-Niżnik** – *Sample preparation methods (including FIB)- an overview*, Proceedings of the 5th Stanisław Gorczyca European School on Electron Microscopy and Electron Tomography, Kraków, 5-8.07.2016, G. Cempura, A. Gruszczyński and A. Czyrska-Filemonowicz (eds), Wydawnictwo Naukowe Akapit, ISBN 978-83-63663-81-0, Kraków 2016, pp. 363-375
19. **O. Kryshtal** – *TEM basics*, *ibid*, pp. 9-24
20. **A. Kruk** – *FIB-SEM tomography - basics and application to structural materials*, *ibid*, pp. 301-334
21. A. G. Sabato, **G. Cempura**, D. Montinaro, A. Chrysantou, M. Salvo, M. Ferraris, F. Smaecetto – *New Ba-free glass-ceramic sealant for SOFCs application: characterisation and performance*, *ibid*, p. 378 (abstract)
22. **S. Lech, A. Kruk, A. Czyrska-Filemonowicz** – *Electron tomography of phases in Allvac 718Plus superalloy*, *ibid*, p. 406 (abstract)
23. **O. Dziuba, A. Kruk, G. Michta** – *2D and 3D analysis of microstructural elements in electron beam welded Allvac 718Plus joint*, *ibid*, p. 395 (abstract)
24. M. Jędrusik, **G. Cempura** - *Characteristics of Al₂O₃ layers formed on aluminum alloys by plasma electrolytic oxidation*, *j.w.*, s. 398-399 (abstract)
25. **S. Lech, A. Kruk, A. Czyrska-Filemonowicz** – *Investigation of phases in Allvac 718Plus and Inconel 718 superalloys*, AGH – Hokkaido University Joint Symposium, 29-31.07.2016, Sapporo, p. 14 (abstract)
26. **S. Lech, A. Kruk, A. Czyrska-Filemonowicz** – *Investigation of phases in Allvac 718Plus and Inconel 718 superalloys*, Kyoto-Kraków Symposium on Materials Science, 2.08.2016, Kyoto, p. 12 (abstract)
27. **U. Stachewicz** - *3D nanoscale imaging of electrospun nanofibre networks*, Proc. International Conference on Nanotechnology Applications, Nanotec'2016, 26-27.09.2016, Walencia, s. 140 (abstract)
28. **S. Lech, A. Czyrska-Filemonowicz** - *Analiza faz występujących w nadstopie Allvac 718Plus*, XLIV Szkoła Inżynierii Materialowej, 27-30.09.2016, Ryto, Wydawnictwo Naukowe AKAPIT, 2016, s. 102-105
29. T. Thersleff, S. Giraldo, **B. Rutkowski, A. Czyrska-Filemonowicz**, K. Leifer, E. Saucedo – *Epitaxial relationships and structural quality of the Cu₂ZnSnSe₄/CdS hetero-junction on*

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