

СПИСЪК
на научните трудове на
проф. д.фз.н. Катя Желева Вутова
(1985-2014 г.)

1. Mladenov, R.Dimitrova, O.Stojanova, K.Jeleva, "Monte Carlo calculation on electron scattering in thin polymer film", Proc. of the 1st Intern. Conf. on Electron Beam Technologies, Varna, (1985), 32-39.
2. G.Mladenov, R.Dimitrova, K.Jeleva, "Electron beam scattering and energy dissipation in a thin polymer film", Proc. of the Seventh Czechoslovak Conference on Electron and Vacuum Physics, part 2, (1985), 514-521.
3. Г.Младенов, С.Сабчевски, К.Вутова, "Оценка эмиттанса и яркости пучков заряженных частиц, применяемых в технологических процессах", Болг. Физ. Журнал, 14, (1987), 1, 97-102.
4. Г.Младенов, Р.Димитрова, К.Вутова, "Цифровое моделирование проникновения быстрых электронов в твердые образцы", Болг. Физ. Журнал, 14, (1987), 5, 446-456.
5. Р.Димитрова, Г.Младенов, К.Вутова, "Теоретическое и экспериментальное исследование параметров функции, характеризующей эффект близости", Болг. Физ. Журнал, 14, (1987), 6, 589-595.
6. Г.Младенов, Р.Димитрова, К.Вутова, "Моделирование процессов в электронной литографии", Вторая Междунар. конф. по электроннолучевым технологиям, Варна, (1988): Труды. ЭЛТ-88, 73-81.
- 7-А. K.Vutova, G.Mladenov, "Methodology for determining the radiation efficiency and contrast characteristics in the case of electron and ion lithography, using positive polymer resists", Thin Solid Films, 200, (1991), 353-362.
- 7-Б. К.Вутова, Г.Младенов, "Методика вычисления значения радиационной эффективности и характеристики контраста в электронной и ионной литографиях позитивных полимерных резистов", Поверхность, 7, (1991), 96-103.
8. K.Vutova, G.Mladenov, "Absorbed energy distribution in electron lithography of simple patterns", Journal of Information Recording Materials, 19, (1991), 4, 261-269.
9. K.Vutova, G.Mladenov, "Mathematical modeling of the development process in electron lithography", Journal of Information Recording Materials, 19, (1991), 4, 271-282.
10. К.Вутова, "Моделиране на процесите на експониране и проявяване при електронна и йонна литографии", дисертация за присъждане на образователната и научна степен "доктор", София, (1992).
11. K.Vutova, G.Mladenov, "Modelling of physical processes in ion lithography", Thin Solid Films, 214, (1992), 144-149.
12. V.Vassileva, K.Vutova, L.Georgiev, T.Nikolov, G.Mladenov, "The electron beam melting method for fabrication of oxygen-free copper", Proc. of the Intern. Conf. on Electron Beam Melting and Refining, State of the Art 1992, Reno, Nevada, USA, ed. R.Bakish, (1992), 233-242.
13. K.Vutova, G.Mladenov, "Modeling of exposure and development processes in electron and ion lithography", Modelling and Simulation in Materials Science and Engineering, 2, (1994), 239-254.
14. K.Vutova, G.Mladenov, "Evaluation of the dimensions of weld and thermal effected zones during electron beam treatment", Proc. of the 4th Intern. Conf. on Electron Beam Technologies, Varna, (1994), 101-107.
15. G.Mladenov, K. Vutova, I. Tsakov, S. Sabchevski, "Coherent electron beams", Proc. of the 4th Intern. Conf. on Electron Beam Technologies, Varna, (1994), 167-172.
16. G.Mladenov, K.Vutova, S.Sabchevsky, "Computer simulation of the processes at electron beam technologies", Proc. of the Intern. Conf. on Electron Beam Melting and Refining, State of the Art 1994, Reno, Nevada, USA, ed. R.Bakish, (1994), 283-294.
17. K.Vutova, G.Mladenov, "Mathematical modeling and software for computer simulation of processes in electron lithography", Proc. of the 4th Intern. Conf. on Electron Beam Technologies, Varna, (1994), 158-166.
18. Y.M.Gueorguiev, K.Vutova, G.Mladenov, "A Monte Carlo study of proximity effects in electron-beam patterning of high-T_c superconducting thin films", Physica C, 249, (1995), 187-195.
19. G.Mladenov, V.Vassileva, K.Vutova and T.Nikolov, "Investigations of refining processes during electron beam melting", Vacuum, 47 (6-8), (1996), 825-828.
20. Y.M.Gueorguiev, K.Vutova, G.Mladenov, "Analysis of the proximity function in electron-beam lithography on high-T_c superconducting thin-films", Supercond. Sci. Technol., 9, (1996), 565-569.

21. Г.Младенов, К.Вутова, С.Тинчев, “Компютърно моделиране на ефекти при йонна бомбардировка на ВТСП тънки слоеве”, Материали на нац. конф. с межд. участие “Електроника'96”, Ботевград, изд. СЕЕС, (1996), стр. 150-155.
22. Катя Ж.Вутова, Йордан М.Георгиев, Георги М.Младенов, “Числено моделиране на процесите при електронна литография. Разпределение на погълнатата енергия”, Електротехника и Електроника, 3-4, (1996), 16-20.
23. К. Вутова, Г. Младенов, В. Василева, “Компютърно симулиране на топлинните процеси при електроннолъчево топене и рафиниране на мед”, Материали на нац. конф. с межд. участие “Електроника'96”, Ботевград, изд. СЕЕС, (1996), стр. 173-177.
24. Катя Ж.Вутова, Георги М.Младенов, “Числено моделиране на процесите при електронна литография. Процес на проявяване.”, Електротехника и Електроника, 5-6, (1996), 11-15.
25. Й.Георгиев, К.Вутова, Г.Младенов, “Числено моделиране на експониране и проявяване при електронна литография върху структури, съдържащи високотемпературни свръхпроводящи тънки слоеве”, Материали на нац. конф. с межд. участие “Електроника'96”, Ботевград, изд. СЕЕС, (1996), стр. 143-149.
26. В.Василева, К.Вутова, Т.Николов, П.Влаев, Г.Буков, Г.Младенов, “Електроннолъчево топене, рафиниране и регенериране на чисти метали и сплави за електрониката”, Материали на нац. конф. с межд. участие ”Електроника'96”, Ботевград, изд. СЕЕС, (1996), стр. 167-172.
27. K.Vutova, G.Mladenov, “Computer simulation of the heat transfer through molten pool during electron beam melting and evaporation”, Proc. of the 5th Intern. Conf. on Electron Beam Technologies, Varna, (1997), 273-280.
28. G.Mladenov, S.Wojcicki, K.Vutova, S.Sabchevski, “Electron beam welding thermal efficiency”, Proc. of the 5th Intern. Conf. on Electron Beam Technologies, Varna, (1997), 71-75.
29. K.Vutova, V.Vassileva, G.Mladenov, “Simulation of the Heat Transfer Process through Treated Metal, Melted in a Water-Cooled Crucible by an Electron Beam”, Vacuum, 48 (2), (1997), 143-148.
30. V.Vassileva, K.Vutova, T.Nikolov, G.Bukov, G.Mladenov, P.Vlaev, “Investigation of the crystallization processes in continuous casting during electron beam melting”, Proc. of the 5th Intern. Conf. on Electron Beam Technologies, Varna, (1997), 281-286.
31. К.Вутова, Г.Младенов, Т.Танака, К.Кавабата, “Използуване на фотоелектронна рентгенова спектроскопия за характеризиране на повърхностна грапавост”, Материали на нац. конф. с межд. участие “Електроника'98”, Ботевград, изд. СЕЕС, (1998), стр. 29-35.
- 32-А. Y.Gueorguiev, K.Vutova, G.Mladenov, "Numerical modelling of the processes of exposure and development in electron beam lithography on high-temperature superconducting thin films", Mathematics and Computer in Simulation, 47, (1998), 299-307.
- 32-Б. Y.Gueorguiev, K.Vutova, G.Mladenov, “Numerical modelling of the processes of exposure and development in electron beam lithography on high temperature superconductor thin films”, Thin Solid Films, 323, (1998), 222-226.
33. G.Mladenov, K.Vutova, S.Wojcicki, “Experimental investigation of the weld depth and thermal efficiency during electron beam welding”, Vacuum, 51 (2), (1998), 231-233.
34. G.Mladenov, K.Vutova, K.Kawabata, T.Tanaka, “XPS profilography through angle resolved spectra”, Proc. of the Nat. Conf. with Intern. Participation “Electronica'98”, Botevgrad, Publ. UEEEC, (1998), 36-41.
35. K.Vutova, G.Mladenov, “Computer simulation of the heat transfer during electron beam melting and refining”, Vacuum, 53 (1-2), (1999), 87-91.
36. E.Koleva, G.Mladenov, K.Vutova, “Calculation of weld parameters and thermal efficiency in electron beam welding”, Vacuum, 53 (1-2), (1999), 67-70.
37. G.Mladenov, K.Vutova, T.Tanaka, K.Kawabata, “X-ray Photoelectron Profilography”, Journal of Surface Analysis, 5 (1), (1999), 82-85.
38. K.Vutova, G.Mladenov, T.Tanaka, K.Kawabata, “Evaluation of thin film surface topology shapes”, Mathematics and Computers in Simulation, v.49, No 4-5, (1999), 275-283.
39. K.Vutova, G.Mladenov, T.Tanaka, K.Kawabata, “Photoelectron Signal Simulation from Textured Overlayer Samples”, Surface and Interface Analysis, 30, (2000), 552-556.
40. V.Vassileva, K.Vutova, G.Mladenov, “An Investigation on the Heat Transfer Influence on the Crystallisation Processes during the Electron Beam Melting and Casting of Metals”, Vacuum, 62, (2001), 197-202.
41. E.Koleva, K.Vutova, S.Wojcicki, G.Mladenov, “Radial Distributions of the Beam Current Density as Source for Evaluation of Beam Emittance and Brightness”, Vacuum, 62, (2001), 105-112.

42. K.Vutova, G.Mladenov, I.Raptis, "Determination of the radiation efficiency, contrast and sensitivity in electron and ion lithography", Proc. of the Intern. Conf. on Simulation of Semiconductor Processes and Devices, "SISPAD 2001", Athens, ed. D.Tsoukalas, Publ. Springer-Verlag, (2001), 440-443.
43. K.Vutova, G.Mladenov, T.Tanaka, K.Kawabata, "Photoelectron signal simulation from textured samples covered by a thin film", Vacuum, 62, (2001), 297-302.
44. G.Mladenov, K.Vutova, I.Raptis, P.Argitis, I.Rangelow, "Simulation of latent image formation for ion beam projection lithography", Microelectronic Engineering, 57-58, (2001), 335-342.
45. E.Koleva, K.Vutova, G.Mladenov, "The role of thermal contact ingot-crucible at mathematical modelling of the heat transfer during electron beam melting", Vacuum, 62, (2001), 189-196.
46. K.Vutova, G.Mladenov, "Sensitivity, contrast and development process in electron and ion lithography", Microelectronic Engineering, 57-58, (2001), 349-353.
47. K.Vutova, G.Mladenov, "Why light Ions in Future Ion Lithography", Vacuum, 62, (2001), 273-278.
48. K.Vutova, G.Mladenov, T.Tanaka, K.Kawabata, "Photoelectron Signal Simulation from Textured Samples with Modified Surface Composition", Surface and Interface Analysis, 34, (2002), 597-600.
49. G. Mladenov, K.Vutova, "Computer simulation of exposure and development in electron and ion lithography", Proc. of St.-Petersburg Electrotechnical University, issue "Solid State Physics and Electronics", St.-Petersburg, Russia, 1, (2002), 133-173.
50. G.Mladenov, K.Vutova, G.Djanovsky, E.Koleva, V.Vassileva, D.Mollov, "Electron beam deposition of high temperature superconducting thin films", published in "Emerging Applications of Vacuum-Arc-Produced Plasma, Ion and Electron Beams" – NATO Science Series, Series II: Mathematics, Physics and Chemistry-Vol.88, Kluwer Academic Publishers, (2003), 163-171.
51. K.Vutova, G.Mladenov, T.Tanaka, K.Kawabata, I.Rangelow, "Electron and ion beam lithography simulation for sub-quarter-micron patterns", Proc. of the 7th Intern. Conf. on Electron Beam Technologies, Varna, (2003), 469-481.
52. K.Vutova, G.Mladenov, Final report of the WTZ Scientific and Technological Cooperation Joint Project BGR 00/006 "Computer Simulation of Processes in Electron and Ion Lithography for microelectronics and photonics" between the IE-BAS and the University of Kassel, Institute of Technological Physics, Kassel, Germany, (2001-2003), pp.1-65.
53. A.Olziersky, K.Vutova, G.Mladenov, I.Raptis, T.Donchev, "Electron beam lithography simulation on superconducting substrates", Supercond. Sci. Technol., 17, (2004), 881-890.
54. Vutova K., G. Mladenov, "Application of XPS analysis for characterization of smooth samples, textured samples and overlayers on samples", Proc. of Indo-Bulgarian Workshop on Electron Beam Technology and Applications, Mumbai, India, ed. A.K.Das, publ. Ebenezer Printing House, (2004), pp.158-168.
55. Vutova K., G. Mladenov, "Electron and ion lithography – physical processes, computer simulation and experimental data", Proc. of Indo-Bulgarian Workshop on Electron Beam Technology and Applications, Mumbai, India, ed. A.K.Das, publ. Ebenezer Printing House, (2004), pp. 212-242.
56. E.Колева, К.Вутова, П.Петров, Г.Младенов, "Разработки Института електроники Болгарской академии наук в области электронно-лучевой сварки", журнал "Сварщик", 5, (2004), 25-29.
57. Vassileva V., K. Vutova, E. Koleva, T. Nikolov, E. Georgieva, G. Mladenov, "IE BAS experience in the electron beam melting and refining", Proc. of Indo-Bulgarian Workshop on Electron Beam Technology and Applications, Mumbai, India, ed. A.K.Das, publ. Ebenezer Printing House, (2004), pp. 51-59.
58. E.Колева, К.Вутова, Г.Младенов, "Определяне на дозата на експониране за получаване на напълно проявен профил на резиста при електронна литография", Материали на нац. конф. с межд. участие "Електроника'2004", София, изд. СЕЕС, (2004), 87-92.
59. Djanovski G., K. Vutova, S. Velinova, D. Mollov, G. Mladenov, "Preparation and characterization of high temperature superconducting $Y_1Ba_2Cu_3O_{7-x}$ thin films", Proc. of Indo-Bulgarian Workshop on Electron Beam Technology and Applications, Mumbai, India, ed. A.K.Das, publ. Ebenezer Printing House, (2004), pp 144-148.
60. Mladenov G., P. Petrov, E. Koleva, K. Vutova, "Electron beam welding process", Proc. of Indo-Bulgarian Workshop on Electron Beam Technology and Applications, Mumbai, India, ed. A.K.Das, publ. Ebenezer Printing House, (2004), pp. 287-298.
61. G.Mladenov, A.Yanev, K.Vutova, M.Petkov, T.Nurgaliev, E.Mateev, T.Donchev, V.Vasileva, G.Djanovsky, V.Ranev, E.Koleva, L.Neshkov, B.Blagoev, E.Georgieva, S.Velinova, D.Mollov, Report on NATO Science for Peace Programme SfP Project No 973718 "Damage Free Submicron Structures of High Temperature Superconducting Thin Films", Annual Report 2004, Institute of electronics, BAS, ed. N.Gerassimov, Ch.Gelev, pp.93-105.

62. Vutova K., E.Koleva, T.Tanaka, T.Takagi, G. Mladenov, "Ion modification of plastic materials", Proc. of the Nat. Conf. with Intern. Participation "Electronika'2004", Sofia, Publ. UEEE Bulgarian Section, (2004), 93-101.
63. Г.Младенов, К.Вутова, "Електронна и йонна литография на наноразмерни структури", Новости, информационен бюлетин за наука и технологии на БАН, София, (2005), стр.20-23.
64. V.Vassileva, K.Vutova, G.Mladenov, "Analysis of the thermodynamic conditions and the kinetic factors governing the refining process during electron beam melting of reactive metals", Int. Journal IEEE – Annual School. Lectures., 25(2), (2005), 25-34.
65. K.Vutova, G.Mladenov, T.Tanaka, K.Kawabata, "Simulation of the energy absorption and the resist development at sub-150 nm ion lithography", Microelectronic Engineering, 78-79 (2005), 533-539.
66. Г.Младенов, К.Вутова, "Симулация на процесите при електронна и йонна литография", Списание на БАН, книжка 5, (2005), 4-17.
67. G.Mladenov, K.Vutova, E.Mateev, M.Petkov, E.Koleva, G.Djanovski, V.Videkov, B.Spangenberg, F.Merget, Y.Georgiev, "Development of superconducting bridge structures using photolithography and electron beam lithography", Int. Journal IEEE – Annual School. Lectures., 25(1), (2005), 7-10.
68. Г.Младенов, К.Вутова, "Положително оценени постижения на учени от БАН в Индия. Нов подход при моделиране и оптимизиране на мощни електронно-оптични системи, конструирани за технологични приложения."- първа част, Новости, информационен бюлетин за наука и технологии на БАН, бр.4 (20), (2005), стр.1-2.
69. G.Djanovski, K.Vutova, E.Koleva, M.Petkov, D.Mollov, S.Velinova, G.Mladenov, "Electron beam deposition and characterization of high temperature superconducting thin films", Int. Journal IEEE – Annual School. Lectures., 25(2), (2005), 17-20.
70. V.Vassileva, K.Vutova, E.Georgieva, G.Mladenov, "Investigation of Refining Processes During EB Regeneration of Reactive Metals of Group IV B", Proc. of DAE-BRNS Symposium on Electron Beam Technology and Applications, SEBTA 2005, Mumbai, India, ed. M.Mascarenhas, (2005), pp.295-306.
71. Г.Младенов, К.Вутова, "Положително оценени постижения на учени от БАН в Индия. Формиране на изискванията към устройствата за характеризиране на параметрите на мощните електронни снопове. Топене и очистване на метали във вакуум с електронен сноп."- втора част, Новости - информационен бюлетин за наука и технологии на БАН, бр.5 (21), (2005), стр.1-2.
72. E.Koleva, K.Vutova, G.Mladenov, "Characterization of Powerful Electron Beams", Proceedings of DAE-BRNS Symposium on Electron Beam Technology and Applications, SEBTA 2005, Mumbai, India, ed. M.Mascarenhas, (2005), pp.307-322.
73. V.Vassileva, G.Mladenov, K.Vutova, T.Nikolov, E.Georgieva, "Oxygen removal during electron beam drip melting and refining", Vacuum, 77, (2005), 429-436.
74. G.Mladenov, K.Vutova, I.Raptis, P.Argitis, Final Report on NATO Science for Peace Programme SfP Project No 973718 "Damage Free Submicron Structures of High Temperature Superconducting Thin Films" - "SubHTS", (2005), pp.1-82.
75. Г.Младенов, К.Вутова, "Положително оценени постижения на учени от БАН в Индия. Електроннолъчево заваряване във вакуум."- трета част, Новости - информационен бюлетин за наука и технологии на БАН, бр.6 (22), (2005), стр.1-2.
76. E.Koleva, V.Vassileva, K.Vutova, G.Mladenov, "Electron beam melting and refining of refractory and reactive metals", J. Electronics and Electrical Engineering, 5-6, (2006), 136-140.
77. G.Djanovski, M.Beshkova, S.Velinova, D.Mollov, P.Vlaev, D.Kovacheva, K.Vutova, G.Mladenov, "Deposition of CeO₂ Films on Si(100) Substrate by Electron Beam Evaporation", Plasma Processes and Polymers, 3 (2), (2006), 197-200.
78. G.Mladenov, A.Yanev, K.Vutova, E.Koleva, G.Djanovsky, V.Videkov, M.Petkov, V.Ranev, "Microwave band-pass 5GHz filter utilizing high-temperature superconducting film", Int. Journal IEEE – Annual School. Lectures., 25(2), (2005), 21-24.
79. E. Koleva, V.Vassileva, K.Vutova, G.Mladenov, "Process Analysis and Quality Control at EBMR of Refractory and Reactive Metals", Proc. of the Intern. Conf. on High-Power Electron Beam Technology, Harrah's Reno, Nevada USA, (2006), pp.5/1-11.
80. Г.Младенов, В.Василева, К.Вутова, Т.Николов, Е.Георгиева, "Електроннолъчево топене и рафиниране на реактивни и труднотопими метали", Електротехника и електроника, бр.7-8, (2006), 13-21.
- 81-А. K.Vutova, G.Mladenov, T.Tanaka, T.Takagi, "Investigation of ion penetration in silicon during plasma-based ion implantation", J. Physics, 49 (8), (2006), 216-218.
- 81-Б. K.Vutova, G.Mladenov, T.Tanaka, T.Takagi, "Investigation of ion penetration in silicon during plasma-based ion implantation", J. Electrotechnica and Electronica, 5-6, (2006), 186-188.

82. V.Vassileva, K.Vutova, G.Mladenov, "Analysis of the thermodynamic conditions of refining during electron beam melting of refractory metals", *Materials Science and Engineering Technology*, 37 (7), (2006), 613-618.
83. E.Koleva, K.Vutova, G.Mladenov, "Modeling of exposure and development of resist profiles", *J. Electronics and Electrical Engineering*, 5-6, (2006), 194-198.
84. G.Mladenov, K.Vutova, *News, Physics and Astronomy*, (2006), 9-19.
85. K.Vutova, G.Mladenov, I.Raptis, A.Olziersky, "Process simulation at electron beam lithography on different substrates", *Journal of Materials Processing Technology*, 184 (1-3), (2007), 305-311.
86. K.Vutova, E.Koleva, G.Mladenov, I.Kostic, T.Tanaka, K.Kawabata, "Some peculiarities of resist profile simulation for positive tone chemically amplified resists in electron beam lithography", *Annual Report 2007*, Institute of electronics, BAS, ed. N.Gerassimov, Ch.Gelev, 81-89.
87. K.Vutova, G.Mladenov, T.Tanaka, K.Kawabata, I.Rangelow, "Electron and ion beam lithography simulation for sub-quarter-micron patterns", *Nano Trends: A Journal of Nanotechnology and its Applications*, 2 (1), (2007), 32-47.
88. К.Вутова, "Моделиране на физични процеси при обработка на материали с електронни и йонни снопове", дисертация за присъждане на научната степен "доктор на физическите науки", София, (2007).
89. K.Vutova, G.Mladenov, "Computer simulation of micro- and nano- structures at electron and ion lithography", *Journal of Optoelectronics and Advanced Materials*, 10 (1), (2008), 91-97.
90. E.Koleva, G.Mladenov, V.Vassileva, K.Vutova, "Development of an engineering support system for modeling and control of the processes of EBMR of metals", *Annual Report 2008*, Institute of electronics, BAS, ed. N.Gerassimov, Ch.Gelev, 83-93.
91. G.Mladenov, E.Koleva, K.Vutova, I.Kostic, V.Spivak, A.Bencurova, A.Ritomsky, "Resists for electron beam nanolithography", *J. Electrotechnica and Electronica*, v.5-6, (2009), 13-20.
92. E.Koleva, V. Vassileva, K. Vutova, G. Mladenov, K. Velev, "Analysis of inclusions removal and behaviour for the quality control of EBMR of Ti and Cu", *Proc. International Conference "ebeam 2008"*, Reno, Nevada, USA, (2008), 21-31.
93. T.Tanaka, K.Vutova, E.Koleva, G.Mladenov, T.Takagi, "Surface modification of plastic films by charged particles", *Polymer Surface Modification: Relevance to Adhesion*, K.L.Mittal (Ed.), VSP/Brill, Leiden, Vol. 5, (2009), 96-106.
94. K.Vutova, V.Vassileva, E.Koleva, E.Georgieva, G.Mladenov, D.Mollov, M.Kardjiev, "Investigation of electron beam melting and refining of Ti and Ta scrap", *J. Electrotechnica and Electronica*, 5-6, (2009), 252-259.
95. G.Mladenov, K.Vutova, E.Koleva, "Computer Simulation of electron and ion beam lithography of nanostructures", *Phys.Chem.Solid State*, 10 (3), (2009), 707-714.
96. K.Vutova, V.Vassileva, E.Koleva, G.Mladenov, E.Georgieva, "Titanium regeneration from waste product", *Proc. of the International Conference "Ti-2009"*, Odessa, Ukraine, (2009), 74-79.
97. K.Vutova, E.Koleva, G.Mladenov, I.Kostic, "Some peculiarities of resist-profile simulation for positive-tone chemically amplified resists in electron-beam lithography", *Journal Vacuum Science and Technology B – Microelectronics and Nanometer Structures*, 27 (1), (2009), 52-57.
98. K.Vutova, E.Koleva, G.Mladenov, I.Kostic, T.Tanaka, K.Kawabata, "A simulation model for Chemically Amplified Resist CAMP6", *Microelectronic Engineering*, 85, (2009), 714-717.
99. K.Vutova, G.Mladenov, Chapter 17. Computer simulation of Processes at Electron and Ion Beam Lithography, Part 1: Exposure modeling at electron and ion beam lithography, in: M. Wang, ed., *Book Lithography*, INTEH, ISBN 9789533070643, (2010), 319-350.
100. K.Vutova, V.Vassileva, E.Koleva, E. Georgieva, G.Mladenov, D.Mollov, M.Kardjiev, "Investigation of Electron Beam Melting and Refining of Titanium and Tantalum Scrap", *Journal of Materials Processing Technology*, 210, (2010), 1089-1094.
101. K.Vutova, E. Koleva, G.Mladenov, I.Kostic, T.Tanaka, "Computer simulation of resist profiles at electron beam nanolithography", *Microelectronics Engineering*, 87, (2010), 1108-1111.
102. E.Koleva, G.Mladenov, I.Batchkova, K.Velev, V.Vassileva, K.Vutova, "Quality control of refining process at electron beam melting and development and implementation of engineering support system for process modeling and control", *Supplemental Proceedings: v.3: General Paper Selections TMS 2010*, Seattle, USA, 777-784 (2010).
103. E.Koleva, K.Vutova, G.Mladenov, D.Todorov, "Method of emittance evaluation", *Proc. 16th International Symposium on High Current Electronics (SHCE)*, Tomsk, Russia, (2010), 31-34.
104. K.Vutova, E.Koleva, G.Mladenov, Chapter 18. Computer simulation of Processes at Electron and Ion Beam Lithography, Part 2: Simulation of resist developed images at electron and ion beam lithography, in: M. Wang, ed., *Book Lithography*, INTEH, ISBN 9789533070643, (2010), 351-378.

105. K.Vutova, E.Koleva, V.Vassileva, G.Mladenov, "Surface modification of reactive metals by electron beam surface melting", Proc. 10th International Conference on Modification of Materials with Particle Beams and Plasma Flows (CMM), Tomsk, Russia, (2010), 302-304.
106. K.Vutova, V.Vassileva, G.Mladenov, E.Koleva, "New material fabrication by electron-beam melting of wastes of titanium, hafnium and tantalum", Annual Report 2010, Institute of electronics, BAS, 84-92.
107. K.Vutova, E.Koleva, G.Mladenov, "Simulation of thermal transfer process in cast ingots at electron beam melting and refining", Journal International Review of Mechanical Engineering (IREME), Special Issue on Heat Transfer, 5 (2), (2011), 257-265.
108. G.Mladenov, E.Koleva, K.Vutova, "Electron lithography of submicron and nano structures", Chapter in a special review book "Practical Aspects and Applications of Electron Beam Irradiation", eds.: M.Nemtanu, M.Brasoveanu, publ. Research Signpost/Transworld Research Network, ISBN 978-81-7895-541-4, (2011), 135-166.
109. G.Mladenov, E.Koleva, K.Vutova, "Heat transfer and weld geometry at electron beam welding", Journal International Review of Mechanical Engineering (IREME), Special Issue on Heat Transfer, 5 (2), (2011), 235-243.
110. K.Vutova, V.Vassileva, G.Mladenov, V.Donchev, "Thermal transfer process through treated metal regenerated by electron beam melting and refining", 1st International Central and Eastern European Conference on Thermal Analysis and Calorimetry, 265, (2011).
111. K.Vutova, V.Vassileva, G.Mladenov, E.Koleva, T.Prakash, N.Munirathnam, "Electron beam melting and recycling of hafnium", Supplemental Proceedings: v.3: General Paper Selections TMS2011, Wiley, San Diego, USA, (2011), 725-732.
112. K.Vutova, G.Mladenov, T.Tanaka, "Photoelectron signal simulation at surface analysis", Chapter in a special review book "Practical Aspects and Applications of Electron Beam Irradiation", eds.: M.Nemtanu, M.Brasoveanu, publ. Research Signpost/Transworld Research Network, ISBN 978-81-7895-541-4, (2011), 235-254.
113. V.Vassileva, K.Vutova, G.Mladenov, E.Koleva, "Investigation of tantalum recycling by electron beam melting method", Proc. Int. Conf. Eng., Techn. & Systems, Journal of the Technical University–Sofia, Plovdiv branch, (2011), 263-268.
114. K.Vutova, G.Mladenov, E.Koleva, I.Kostic, A.Bencurova, P.Nemec, T.Tanaka, "Nonlinear solubility behavior of polymer and oligomer resists at electron beam modification", Journal of Materials Science and Engineering B, 1, (2011), 523-529.
115. G.Mladenov, E.Koleva, K.Vutova, V.Vasileva, "Experimental and theoretical studies of electron beam melting and refining", Chapter in a special review book "Practical Aspects and Applications of Electron Beam Irradiation", eds.: M.Nemtanu, M.Brasoveanu, publ. Research Signpost/Transworld Research Network, ISBN 978-81-7895-541-4, (2011), 43-93.
116. V.Donchev, K.Vutova, G.Mladenov, "Computer simulation and mathematical modeling in solar thermal hydrogen reactors", Proc. Intern. Symp. "Advanced solutions in applied energy technologies", (2011), 64-74.
117. V.Vassileva, K.Vutova, E.Koleva, G.Mladenov, "Recycling of Hf and Ta wastes utilizing electron beam melting in vacuum", J. Electrotechnica and Electronica, v.11-12, (2011), 43-52.
118. G.Mladenov, E.Koleva, K.Vutova, "Nanotechnology and nanomaterials – a collaboration between Bulgaria (IE-BAS) and Ukraine (National Technical University "KPI")", Annual Report 2011, Institute of electronics, BAS, Eds.: Ch.Ghelev and N.Guerassimov, 87-95.
119. K.Vutova, V.Donchev, "Time-dependent thermal model for electron beam melting of metals and alloys", J. Electrotechnica and Electronica, 47, (2012), 273-279.
120. M.Oane, K.Vutova, I.N.Mihailescu, V.Donchev, G.Florescu, L.Munteanu, G.Georgescu, "The study of vacuum influence on spatial-temporal dependence of thermal distributions during laser-optical components interaction", Vacuum, 86, (2012), 1440-1442.
121. A.Bencurova, P.Nemec, I.Kostic, K.Vutova, E.Koleva, G.Mladenov, "Investigation of sensitivity of electron resists", J. Electrotechnica and Electronica, 47, (2012), 10-13.
122. K.Vutova, "Mathematical modeling of sub-micron and nano-structures at electron beam lithography", Plenary and Keynote Proceedings "Nanocon 012", IInd International Conference on Nanotechnology - Innovative Materials, Processes, Products and Applications, Pune, India, (2012), 23-32.
123. V.Donchev, M.Oane, K.Vutova, I.N.Mihailescu, V.Vassileva, E.Koleva, G.Mladenov, D.Toader, "Heat transfer study based on time-dependent mathematical model and experimental data at EBMR of Ta", J. Electrotechnica and Electronica, 47, (2012), 280-284.

124. Proceedings “Research and Development of New Materials on the Base of Recycling of Reactive and Refractory Metals Scrap through Electron Beam Method”, Editor: Katia Vutova, IE-BAS, 172 p, ISBN 978-954-92977-1-3, (2012).
125. K.Vutova, V.Donchev, V.Vassileva, G.Mladenov, „Influence of process and thermo-physical parameters on the heat transfer at electron beam melting of Cu and Ta”, in Supplemental Proceedings: v.1: Materials Processing and Interfaces, TMS 2012, Wiley, Orlando, USA, (2012), 125-132.
126. D.Toader, M.Oane, I.Mihailescu, C.Ticos, N.Serban, C.Ristoscu, K.Vutova, G.Georgescu, V.Donchev, “Beam dynamics: a new computational approach”, J. Electrotechnica and Electronica, 47, (2012), 33-35.
127. K.Vutova, V.Donchev, V.Vassileva, E.Koleva, G.Mladenov, “Investigation of electron beam drip melting by a time-dependent heat model”, Proceedings of the International Conference on High-Power Electron Beam Technology “ebeam 2012”, Reno, Nevada, USA, (2012), 35-41.
128. Г.Младенов, К.Вутова, В.Василева, Е.Георгиева, Е.Петров, В.Панков, Д.Петров, „Регенериране на отпадъци от труднотопими и реактивни метали и техните сплави по електроннолъчев метод. Проучване на наличните количества скрап от труднотопими и реактивни метали и на пазара. Икономическа ефективност и екологичен ефект от рециклирането на отпадъците.”, в Сборник „Получаване на нови материали чрез рециклиране на отпадъци от реактивни и труднотопими метали по електроннолъчев метод”, редактор К.Вутова, ИЕ-БАН, (2012), 9-20.
129. V.Vassileva, K.Vutova, V.Donchev, „Recycling of alloy steel by electron beam melting”, J. Electrotechnica and Electronica, 47, (2012), 285-291.
130. E.Koleva, V.Vassileva, D.Mollov, K.Vutova, G.Mladenov, “Model-Based Approach for Quality Optimization of EBMR Process of Ta”, Proc. of the International Conf. “ebeam2012”, Reno, Nevada, USA, (2012), 16-24.
131. Vutova K., Donchev V., Vassileva V., Amalnerkar D., Munirathnam N., Prakash T. “Application of non-stationary thermal model for simulation and investigation of heat and refining processes of Ti during EBMR”, EPD Congress 2013 volume, TMS2013, Wiley, San Antonio, USA, (2013), 253-260.
132. Vutova K., Donchev V., “Electron Beam Melting and Refining of Metals: Computational Modeling and Optimization”, Materials, 6(10), (2013), 4626-4640.
133. Вутова К., Младенов Г., Василева В., Колева Е., Георгиев Й., Бешкова М., Дончев В., „Наноелектроника, нови материали и технологии”, Списание на БАН, 6, (2013), 55-69.
134. Vassileva V., Vutova K., “Criteria for refining of Hafnium scrap using electron beam melting”, Proc. Int. Conf. Eng., Techn. & Systems, Journal of the Technical University – Sofia, Plovdiv branch, (2013), 281-286.
135. Vutova K., Donchev V., Vassileva V., Koleva E. and Mladenov G., “Regeneration of materials by electron beam melting and refining of refractory metals and alloys in vacuum”, Annual Report 2012, Institute of electronics, BAS, Eds.: Ch.Ghelev and N.Guerassimov, 91-96.
136. Donchev V., Vutova K., “Application software based on non-stationary heat model for simulation of the heat processes during electron beam melting of metals”, Proc. Int. Conf. Eng., Techn. & Systems, Journal of the Technical University – Sofia, Plovdiv branch, (2013), 293-298.
137. H.Kozai, N.Fujimura, H.Noguchi, H.Toyota, Y.Shirai, T.Tanaka, K Vutova, “Preliminary estimation of incident ion energy by using simulation software (PEGASUS)”, J. Electrotechnica and Electronica, Vol.49, N 5-6, (2014), 334-338.
138. K.Vutova, V.Donchev, V.Vassileva, G.Mladenov, „Thermal transfer process through treated metal regenerated by electron beam melting and refining”, Journal Metal Science and Heat Treatment, v.55, iss.11-12, (2014), 628-635
139. Durina P., Bencurova A., A Konecnikova, I Kostic, K Vutova, E Koleva, G Mladenov, P Kus, A Plecenik, “Patterning of structures by e-beam lithography and ion etching for gas sensor application”, IOP Publishing, Journal of Physics: Conference Series, 18th International Summer School on Vacuum, Electron and Ion Technologies, v.514, (2014), 012037, doi:10.1088/1742-6596/514/1/012037
140. V.Vassileva, K. Vutova, V. Donchev, A. Stoimenov, D. Amalnerkar, N. Munirathnam, “Electron beam melting and recycling of Nickel”, J. Electrotechnica and Electronica, Vol.49, N 5-6, (2014), 138-143.
141. Donchev V.,Vutova K., “Optimization method based on mathematical heat model for electron beam melting and refining of metals”, IOP Publishing, Journal of Physics: Conference Series, 2nd International Conference on Mathematical Modeling in Physical Sciences, Prague, Czech Republic, v.490, (2014), 012211, doi:10.1088/1742-6596/490/1/012211
142. K.Shimono, N. Fujimura, H. Noguchi, H. Toyota, Y. Shiray, T.Tanaka, K. Vutova, “Pulse width dependence of the self-ignited plasma using a plasmabased ion implantation”, J. Electrotechnica and Electronica, Vol.49, N 5-6, (2014), 329-333.

143. Donchev V., Vutova K., Vassileva V., "Experimental and numerical investigation of the refinement of Hf by EBM", IOP Publishing, Journal of Physics: Conference Series, 18th International Summer School on Vacuum, Electron and Ion Technologies, v.514, (2014), 012047, doi:10.1088/1742-6596/514/1/012047
144. V. Donchev, K. Vutova, T. Chernogorova, "Economic and conservative numerical scheme for non-stationary heat model for EBMR", J. Electrotechnica and Electronica, Vol.49, N 5-6, (2014), 132-137.
145. K.Vutova, „Computational modeling and optimization approach at material treatment by electron beams”, Plenary and Keynote Proceedings “Nanocon 014”, 3rd International Conference Nanotechnology - Smart Materials, Composites, Applications and New Inventions, Pune, India, (2014), 72-77.
146. K.Vutova, V.Vassileva, A.Stoimenov, E.Koleva, T.Ivanova, G.Bodurov, K.Gesheva, G.Mladenov, "Optical and structural investigation of WO_x films, deposited by electron beam evaporation process", J. Electrotechnica and Electronica, Vol.49, N 5-6, (2014), 226-230.
147. T.Tanaka, K.Vutova, The report of joint research over 20 years of the Bulgarian Academy of Sciences and Hiroshima Institute of Technology, Bull. Hiroshima Inst. Tech. Research, Vol.48 (2014), 105-114.
148. E. Koleva, V.Vassileva, G.Mladenov, K.Vutova, "Experimental Investigation and Computer Simulation of Electron Beam Melting and Refining of Ti and Ni", acc. for publ. in the Proc. of the International Conference on High-Power Electron Beam Technology "ebeam 2014", Reno, Nevada, USA, Oct. 2014.
149. I.Kostic, A.Bencurova, A.Konecnikova, P.Nemec, A.Ritomsky, E.Koleva, K.Vutova, G.Mladenov, "Study of electron beam resists: Negative tone HSQ and positive tone SML300", J. Electrotechnica and Electronica, Vol.49, N 5-6, (2014), 279-283.