

## **Списък на научните трудове**

### **на доц. д-р инж. Елена Георгиева Колева по конкурса**

#### **B4. Статия, реферирани и индексирани списания**

B1. K. Vutova, E. Koleva, G. Mladenov, I. Kostic, Some peculiarities of resist-profile simulation for positive-tone chemically amplified resists in electron beam lithography, *J. Vac. Sci. Technol. B* 27(1), 1017-1023. ISSN: 1071-1023, (2009)

B2. Katia Vutova, Elena Koleva, Georgy Mladenov, Ivan Kostic, Takeshi Tanaka. Computer simulation of resist profiles at electron beam nanolithography. *Microelectronic Engineering*, 87(5), 1108-1111, (2010)

B3. Katia Vutova, Georgy Mladenov, Elena Koleva, Ivan Kostic, Anna Bencurova, Pavol Nemeц and Takeshi Tanaka. Nonlinear Solubility Behavior of Polymer and Oligomer Resists at Electron Beam Modification, *Journal of Materials Science and Engineering B* 1, 523-529, (Formerly part of *Journal of Materials Science and Engineering*), ISSN 1934-8959, (2011)

B4. K. Vutova, E. Koleva, G. Mladenov, Simulation of thermal transfer process in cast ingots at electron beam melting and refining, *International Review of Mechanical Engineering (IREME)*, Vol 5 n°2, (February 2011), 257-265. ISSN: 1970 – 8734, (2011)

B5. Elena G. Koleva, Georgi M. Mladenov, Renewable energy and energy efficiency in Bulgaria, *Progress in Industrial Ecology – An International Journal*, Vol. 8, No. 4, (2014), pp. 257-278. (ISSN online: 1478-8764, ISSN print: 1476-8917).

B6. P. Ďurina, I. Kostič, K. Vutova, A. Konečnicková, A. Benčurová, E. Koleva, G. Mladenov, P. Kúš, A. Plecenik. Patterning of structures by e-beam lithography and ion etching for gas sensor applications. VIET 7 – 11 October 2013, Sozopol, Bulgaria, *Journal of Physics: Conference Series* (2014). 1742-6596, 514, 012037, doi: 10.1088/1742-6596/514/1/012037, ISSN: 1742-6588

B7. E. Koleva, V. Dzharov, M. Kardjiev and G. Mladenov. „Automation of the electron-beam welding process”, VIET 21-25 September 2015, Sozopol, Bulgaria, *Journal of Physics: Conference Series* (<http://jpcs.iop.org>), Vol. 700, Conf. 1, 2016, ISSN: 1742-6588, <http://dx.doi.org/10.1088/1742-6596/700/1/012012>

B8. R. Andok, A. Bencurova, K. Vutova, E. Koleva, P. Nemeц, P. Hrkut, I. Kostic and G. Mladenov, “Study of the new CSAR62 positive tone electron-beam resist at 40 keV electron energy”, VIET 21-25 September 2015, Sozopol, Bulgaria, *Journal of Physics: Conference Series* (<http://jpcs.iop.org>), Vol. 700, Conf. 1, 2016, ISSN: 1742-6588, <http://dx.doi.org/10.1088/1742-6596/700/1/012030>

B9. P. Ďurina, A. Benčurová, M. Truchlý, R. Andok, I. Kostič, B. Grančič, A. Plecenik, P. Kúš, K. Vutova, E. Koleva. Simple patterning method of sub-micro- and nanometer structures for gas sensor. ASDAM 2016. Proceedings of the 11th International Conference on Advanced Semiconductor Devices and Microsystems, 2017, IEEE Catalog Number: CFP16469-PRT. 137-140. ISBN: 978-1-5090-3081-1. DOI: 10.1109/ASDAM.2016.7805914. (SJR: 0.348)

B10. L. Koleva, E. Koleva, I. Batchkova and G. Mladenov. Integrated control system for electron beam processes. VIET 25 – 29 September 2017, Sozopol, Bulgaria, Journal of Physics: Conference Series (<http://jpcs.iop.org>), Volume 992/2018, 012014, ISSN: 1742-6588. <http://iopscience.iop.org/article/10.1088/1742-6596/992/1/012014/pdf> (SJR = 0.241)

## **5. монография (не хабилитационен труд)**

Г11. Монография в 2 тома: Наноелектроника, Кн. 2. А. Н. Шмырева, Г. М. Младенов, В. М. Спивак, Е. Г. Колева и А. В. Богдан, Материалы и функциональные устройства: Киев-София: Аверс, 2011. 385 стр. ISBN 966-8934-23-7, (2011) – на руски език

Г12. Монография Г. Младенов, Д. Трушников, В. Беленький, Е. Колева, Электронно-лучевая сварка, Издательство Пермский Национальный Исследовательский Политехнический Университет, г. Пермь, Русская Федерация, 374 с. (2014). – на руски език ISBN: 978-5-398-01360-3

## **7. статии в списания реферирани и индексирани**

Г13. M. Braşoveanu, L. St. Koleva, M. R. Nemţanu, E. G. Koleva and T. P. Paneva. Graphical user interface for investigation and optimization of electron beam induced grafting of starch. 13-th Int. Conf. on Electron Beam Technologies – EBT2018, 18-22 June 2018, Varna, Bulgaria, Journal of Physics: Conference Series, Vol. 1089 (1), 2018, doi: 10.1088/1742-6596/1089/1/012017; ISSN: 1742-6588 (SJR = 0.241), <http://iopscience.iop.org/article/10.1088/1742-6596/1089/1/012017/pdf>.

Г14. K. Vutova, V. Vassileva, E. Koleva, V. Stefanova, D. P. Amalnerkar. Effects of process parameters on electron beam melting technogenic materials for obtaining rare metals. 13-th Int. Conf. on Electron Beam Technologies – EBT2018, 18-22 June 2018, Varna, Bulgaria, Journal of Physics: Conference Series, 1089 (1), 012013, 2018, doi: 10.1088/1742-6596/1089/1/012013, ISSN: 1742-6588 <http://stacks.iop.org/1742-6596/1089/i=1/a=012013>, (JIR = 0.241)

Г15. D. Petrova, E. Koleva, I. Voutchkov. Model-Based Robust Parametric Design of Automatic Cleaning Process. Journal of Pharmaceutical Innovation, March 2012, Volume 7, Issue 1, pp 30-37. DOI: 10.1007/s12247-012-9120-3, ISSN: 1872-5120; Online ISSN: 1939-8042, Publisher Springer US, (2012).

## **8. публикации в нереферирани списания**

Г16. E. Koleva, G. Mladenov, Analysis of the Thermal Processes and the Shapes of Melted zones at Electron Beam Welding and Electron Beam Melting. Bulg. J. of Physics, 27, No4, (2000), 83-96.

Г17. Е. Колева, К. Вутова, П. Петров, Г. Младенов. Разработки Института електроники Болгарской академии наук в области электронно-лучевой сварки. Сварщик, 5(39), (2004), pp. 25-29.

Г18. E. Koleva, K. Vutova, G. Mladenov. Modelling of exposure and development of resist profiles. Electrotechnica & Electronica E+E, 5-6, (2006), pp. 194-198.

Г19. Mladenov G. M., Vutova K. J., Koleva E. G. Computer Simulation of Electron and Ion Beam Lithography of Nanostructures, Physics and Chemistry of Solid State, T. 10, № 3, p. 707-714 (Фізика і Хімія Твердого Тіла). ISSN 1729-4428, (2009)

Г20. G. Mladenov, E. Koleva, K. Vutova, I. Kostic, V. Spivak. Resists for electron beam nanolithography. Electrotechnica & Electronica E+E, 5-6, 13-20, ISSN 0861- 4717, (2009)

- Г21. G. M. Mladenov, M. N. Petkov, D. Mollov, S. Velinova, E. G. Koleva. Deposition of TiO<sub>2</sub> thin films by plasma-cathode electron beam evaporation in oxygen atmosphere. *Electrotechnica & Electronica E+E*, 5-6, ISSN 0861- 4717, 260-263, (2009)
- Г22. E. Koleva, G. Mladenov, I. Vuchkov, K. Velev, B. Lamond, D. Petrova. Program tool EBMR-MREDO for robust engineering quality optimization of EBMR of titanium. *Electrotechnica & Electronica E+E*, 5-6, 264-269, ISSN 0861- 4717, (2009)
- Г23. Г. Младенов, О. Богдан, Е. Колева, В. Спивак, Інтегральні біосенсорні системи на основі нанокристалічного кремнію, Праці Інституту електродинаміки Національної академії наук України, Збірник наукових праць, Спеціальний випуск Київ ІЕД НАНУ, 87-92, (2010)
- Г24. G. Mladenov, V. Spivak, E. Koleva, A. Bogdan, S. Zelensky, Micro- and nanostructures in modern memory devices, *Электроника и связь*, Тематический выпуск „Электроника и нанотехнологии” 2, стр. 5-8. ISSN 1811-4512, (2011)
- Г25. G. Mladenov, V. Spivak, E. Koleva, A. Bogdan, S. Zelensky, Prospects of spin transport electronics, *Электроника и связь*, Тематический выпуск „Электроника и нанотехнологии” 3, стр. 9-13. ISSN 1811-4512, (2011)
- Г26. В. Я. Беленкий, Д. Н. Трушников, Г. М. Младенов, Е. Г. Колева, Оптимизация энергетического воздействие электронного пучка при электроннолучевой сварке металлов большой толщины, издание Пермского Национального Исследовательского Политехнического Университета, Машиностроение, материаловедение, т. 15, No 3, стр. 33-40, Изд. ПНИПУ, (2013), ISSN 2224-9877.
- Г27. V. Belenkiy, D. Trushnikov, G. Mladenov, E. Koleva, Electron beam welding-the highly effective energy saving way of joining metal construction materials. *Electrotechnica & Electronica - E+E*, 5-6, Sofia, Publ. CEEC, Vol. 47, (2013), 5-6, pp. 47-51. ISSN 0861-4717
- Г28. E. Koleva, G. Mladenov, Energy efficiency and renewable energy generation in Bulgaria. *Elektrotechnica & Elektronika - E+E*, 5-6, Sofia, Publ. CEEC, (2013), 5-6, pp. 13-27. ISSN 0861-4717.
- Г29. K. Vutova, V. Vassileva, A. Stoimenov, E. Koleva, T. Ivanova, G. Bodurov, K. Gesheva, G. Mladenov. Optical and structural investigation of WO<sub>x</sub> films, deposited by electron beam evaporation process. *Elektrotechnica & Elektronika - E+E*, 49, 5-6, Sofia, Publ. CEEC, (2014), 5-6, pp. 226-230. ISSN 0861-4717.
- Г30. Kostic, A. Bencurova, A. Konecnikova, P. Nemes, A. Ritomsky, E. Koleva, K. Vutova, G. Mladenov. Study of electron beam resists: Negative tone HSQ and positive tone SML300. *Elektrotechnica & Elektronika - E+E*, 5-6, Sofia, Publ. CEEC, (2014), 49, 5-6, pp. 279-283. ISSN 0861-4717.
- Г31. E. Koleva, L. Koleva, M. Braşoveanu, M. R. Nemţanu, T. Paneva, V. Tzotchev. “Graphical user interface for optimization of starch modified by electron beam irradiation”, *Electrotechnica & Electronica – E+E*, Vol. 51, No 5-6, Sofia, Publ. CEEC, pp. 281 - 287, 2016, ISSN: 0861-4717
- Г32. Elena Kolva, Volodya Dzharov, Peter Yordanov, “Automation control of EBW installation by SIMATIC S7-300 PLC”, *Electrotechnica & Electronica – E+E*, 51, No 5-6, Sofia, Publ. CEEC, pp. 162-165, 2016, ISSN: 0861-4717

- Г33. Anna Bencurova, Katia Vutova, Elena Koleva, Ivan Kostic, Anna Konecnikova, Adrian Ritomsky, Georgi Mladenov, "Resist characteristics simulation of HSQ electron beam resist", *Electrotechnica & Electronica – E+E*, 51, No 5-6, Sofia, Publ. CEEC, pp. 246-250, 2016, ISSN: 0861-4717
- Г34. E. Koleva, L. Koleva, M. R. Nemțanu, M. Brașoveanu, K. Vutova, V. Tzotchev. "Investigation and optimization of electron beam grafting of corn starch", *International journal for science, technics and innovations for the industry Machines, Technology, Materials (MTM)*, issue 3/2016 pp. 52-55, 2016, ISSN: 1313-0226.
- Г35. E. Koleva, V. Dzharov. Modeling and control of a rotary manipulator by Arduino programmable logical micro-controller, *Science, Engineering & Education*, v. 1(1), 97-105, 2016, ISSN 2534-8507, (ISSN 2534-8515 online)
- Г36. E. Koleva, L. Koleva, V. Tzotchev, M. Nemtanu, M. Brașoveanu, K. Vutova. Robust engineering approach for optimization of electron beam grafting of corn starch. *Science, Engineering & Education*, v. 1(1), 89-96, 2016, ISSN 2534-8507, (ISSN 2534-8515 online)
- Г37. E. Koleva, T. Paneva, V. Tzotchev. Stability shelf life estimation using linear regression models. *Science, Engineering & Education*, v. 1(1), 106-112, 2016, ISSN 2534-8507, (ISSN 2534-8515 online).
- Г38. Kostic I., Vutova K., Bencurova A., Nemec P., Koleva E. Electron beam lithography method for high-resolution nanofabrication. *International Scientific Journal Machines. Technologies. Materials*, 3 / 2017, 106-109. ISSN (print): 1313-0226, ISSN (web): 1314-507X.
- Г39. M. Todorova, D. Karamanska, E. Koleva, L. Koleva. Ergonomic Criteria for Evaluating the Quality of E-learning. *Electrotechnica & Electronica E+E*, Vol. 52. No 5-6/2017, 24-30. ISSN 0861-4717.
- Г40. Koleva E., Koleva L., Nemțanu M. Brașoveanu M. Robust design and multiple criteria optimization of electron beam grafting of corn starch. *Machines. Technologies. Materials MTM*, year XI, Issue 12/2017, 575-578, (2017), ISSN web 1314-507X.
- Г41. Dzharov V., Koleva E. Functional areas and architectural framework for the management of the electron beam welding instalation. *International Scientific Journal "Machines. Technologies. Materials."* year XII, issue 1, p. p. 28-30 (2018), web ISSN 1314-507X; print ISSN 1313-0226. <http://stumejournals.com/journals/mtm/2018/1/28/pdf>
- Г42. Toni Paneva, Elena Koleva. Analysis of the drug product quality parameters through statistical methods. *International Scientific Journal "Science. Business. Society"*. Year III, Issue 2, p. p. 55-58 (2018). web ISSN 2534-8485; print ISSN 2367-8380. <http://stumejournals.com/journals/sbs/2018/2/55/pdf>
- Г43. Cvetkov Kristian, Gerasimov Vladislav, Kostic Ivan, Koleva Elena, Vutova Katia, Asparuhova Boriana. Electron beam energy deposition and resist profile modeling during electron beam lithography process. *International Scientific Journal "Machines. Technologies. Materials."* year XII, issue 3, pp. 124-127 (2018) web ISSN 1314-507X; print ISSN 1313-0226. <http://stumejournals.com/journals/mtm/2018/3/124/pdf>
- Г44. Maria Demeter, Ion Călin, Cătălin Vancea, Toni P. Paneva, Elena G. Koleva, Lilyana St. Koleva. Modelling of E-beam Crosslinking of Composite Hydrogels. *Electrotechnica & Electronica – E+E*, Vol. 53, No 7-8, Sofia, Publ. CEEC, pp. 224 – 228, 2018, ISSN: 0861-4717

- Г45. Tsvetelina Ivanova, Elena Koleva, Idilia Batchkova, Dobrin Nikolov. Model-driven development of event management system. *Electrotechnica & Electronica – E+E*, Vol. 53, No 9-10, Sofia, Publ. CEEC, pp. 265 – 270, 2018, ISSN: 0861-4717
- Г46. Maria Todorova, Elena Koleva, Ivelina Kotseva. Analysis of the ergonomic quality of e-learning through statistical methods. *Electrotechnica & Electronica – E+E*, Vol. 53, No 9-10, Sofia, Publ. CEEC, pp. 271 – 278, 2018, ISSN: 0861-4717
- Г47. Koleva L., Koleva E, Nemțanu, M. Brașoveanu M. Model based robust engineering approach for parameter optimization of electron beam induced grafting processes. *International Scientific Journal "Science. Business. Society"*, Vol. 4 (2019), Issue 2, 48-51, web ISSN 2534-8485; print ISSN 2367-8380, <https://stumejournals.com/journals/sbs/2019/2/48/pdf>
- Г48. Е. Колева, В. Джаров, В. Цочев. Управление на инсталация за електроннолъчево заваряване. *Автоматика и информатика*, 4/2015, отпечатана през ноември 2016, 22-29, ISSN 0861-7562.
- Г.49. Е. Колева, Л. Колева, В. Цочев. Оптимизация на процеса електроннолъчево заваряване на неръждаема стомана 1Н18НТ чрез робастно инженерно проектиране. 2/2016 г. на списание "Автоматика и информатика", стр. 37-42. (излязла от печат ноември 2017). ISSN 0861-7562.