

Списък на научните трудове на  
доцент доктор **Веселин Тончев**  
Институт по Физикохимия „Акад. Ростислав Каишев“ – БАН,  
представени за участие в конкурс за „доцент“ в катедрата по  
**„Метеорология“ на Физически факултет на Софийски**  
**Университет „Св. Кл. Охридски“, Юни 2017 г.**

1. Публикации в реномирани международни списания с импакт-фактор
  - 1.1 H.Omi, Y. Homma, T. Ogino, S. Stoyanov, **V. Tonchev**, Design of atomic step networks on Si(111) through strain distribution control, Journal of Applied Physics **95**, 1 (2004) 263 - 266. ИФ (2015 г.): 2.101 Цитирана е 1 път
  - 1.2 J.Krug, **V.Tonchev**, S.Stoyanov, A.Pimpinelli, Scaling properties of step bunches induced by sublimation and related mechanisms, Physical Review B **71**, (2005) 045412. ИФ (2015 г.): 3.718 Цитирана е 29 пъти
  - 1.3 H.Omi, Y. Homma, **V. Tonchev**, A.Pimpinelli, New types of unstable step-flow growth on Si(111)-7x7 during molecular beam epitaxy: Scaling and universality, Physical Review Letters **95**, (2005) 216101. ИФ (2015 г.): 7.645 Цитирана е 11 пъти
  - 1.4 **V.Tonchev**, B. Ranguelov, H.Omi, A. Pimpinelli, Scaling and universality in models of step bunching: the “C+–C–” model, European Physical Journal B **73**, (2010) 539 – 546. ИФ (2015 г.): 1.223 Цитирана е 5 пъти
  - 1.5 C.Nanev, **V.Tonchev**, F.Hodzhaoglu, Protocol for growing insulin crystals of uniform size, Journal of Crystal Growth **375**, (2013) 10 – 15. ИФ (2015 г.): 1.462 Цитирана е 1 път
  - 1.6 **V.Tonchev**, C. Nanev, Growth and dissolution of equally-sized insulin crystals, Crystal Research and Technology **48**, 11 (2013) 1003 – 1010. ИФ (2015 г.): 0.908
  - 1.7 G. Georgiev, N. Yokoi, S. Ivanova, **V. Tonchev**, Y. Nancheva and R. Krastev, Surface relaxations as a tool to distinguish the dynamic interfacial properties of films formed by normal and diseased meibomian lipids, Soft matter **10**, 30 (2014) 5579-5588. ИФ (2015 г.): 3.798 Цитирана е 15 пъти

- 1.8 O.Dimitrov, D. Nesheva, V. Blaskov, I. Stambolova, S. Vassilev, Z. Levi, **V.Tonchev**, Gas sensitive ZnO thin films with desired (002) or (100) orientation obtained by ultrasonic spray pyrolysis, Materials Chemistry and Physics **148**, 3 (2014) 712 – 719. ИФ (2015 г.): 2.101 Цитирана е 7 пъти
- 1.9 C. Nanev, **V. Tonchev**, Sigmoid kinetics of protein crystal nucleation, Journal of Crystal Growth **427**, (2015) 48 – 53. ИФ (2015 г.): 1.462 Цитирана е 1 път
- 1.10 S. Ivanova, **V. Tonchev**, N. Yokoi, M. C. Yappert, D. Borchman, and G. As. Georgiev, Surface Properties of Squalene/Meibum Films and NMR Confirmation of Squalene in Tears, International Journal of Molecular Sciences **16**, (2015) 21813-21831. ИФ (2015 г.): 3.257 Цитирана е 2 пъти.
- 1.11 I. Avramov, **V. Tonchev**, Maximal density, kinetics of deposition and percolation threshold of loose packed lattices, Physics Letters A **380**, 20 (2016) 1684 – 1688. ИФ (2015 г.): 1.677
- 1.12 D. Goranova, R. Rashkov, G. Avdeev, **V. Tonchev\***, Electrodeposition of Ni-Cu alloys at high current densities: details of the elements distribution, Journal of Materials Science **51**, 18 (2016) 8663–8673. ИФ (2015 г.): 2.302, Цитирана е 1 път

Статии 1.5, 1.7, 1.8, 1.10 и 1.12 съдържат *съществени* експериментални резултати, получени в България.

\* кореспондиращ автор

2. Публикувани в пълен текст доклади на международни конференции и форуми в реномирани международни списания с импакт-фактор;

2.1. Anna Krasteva, Hristina Popova, Filip Krzyżewski, Magdalena Załuska-Kotur and Vesselin Tonchev, Unstable vicinal crystal growth from cellular automata, AIP Conference Proceedings 1722, 220014 (2016). SJR (2015 г.): 0.198

2.2. Anna Krasteva, Hristina Popova, Noriko Akutsu and Vesselin Tonchev, Time scaling relations for step bunches from models with step-step attractions (B1- type models), AIP Conference Proceedings 1722, 220015 (2016). SJR (2015 г.): 0.198

2.3 F. Krzyżewski, M. Załuska-Kotur, A. Krasteva, H. Popova, V. Tonchev, Step bunching and macrostep formation in 1D atomistic scale model of unstable vicinal crystal growth, Journal of Crystal Growth, 10.1016/j.jcrysgr.2016.11.121. ИФ (2015 г.): 1.462

Забележки: AIP Conference Proceedings има SJR, но няма импакт фактор. Затова при броенето в края съм дал резултати със и без статии 2.1 и 2.2. Реален лидер на тези изследвания, независимо от подредането и кореспондиращия автор, съм аз - ВТ. Статия 2.3 е преминала нормалния процес на рецензиране в JCG и в този смисъл тя би могла да бъде поставена и в раздел 1.

3. Публикации в реномирани национални списания:

3. 1 B. Ranguelov, **V. Tonchev**, H.Omi, A.Pimpinelli, New Universality Class For Step Bunching in the "C+ - C-" Model, *Comptes rendus de l'Academie bulgare des Sciences* **60**, 4 (2007) 389 - 394. ИФ (2015 г.): 0.233
- 3.2 **V.Tonchev**, R.Yakimova, About the diffusion, fractals, scaling and universality, Monte Carlo method or over quarter century of the model of Diffusion-Limited Aggregation, *Chemistry: Bulgarian Journal of Science Education* **17**, 1 (2008), 47 - 56. SJR (2015): 0.190
- 3.3 **V.Tonchev**, B.Ranguelov, Chemical Spirals, *Chemistry* **19**, 6 (2010) 405 - 416.
- 3.4 B.Ranguelov, D. Goranova, **V. Tonchev**, R. Yakimova, Diffusion Limited Aggregation with modified local rules, *Comptes Rendus de l'Academie bulgare des Sciences* **65**, 7 (2012) 913 - 918. ИФ (2015 г.): 0.233
- 3.5 D.Staneva, B. Ranguelov, **V. Tonchev\***, Hybrid models of step bunching, *Comptes Rendus de l'Academie bulgare des Sciences* **65**, 8 (2012) 1049 - 1056. ИФ (2015 г.): 0.233
- 3.6 **V.Tonchev**, Classification of step bunching phenomena, *Bulgarian Chemical Communications* **44**, 3 (2012) 322 - 328. ИФ (2015 г.): 0.229
- 3.7 **V.Tonchev**, Dimensional analysis: an example, *Chemistry: Bulgarian Journal of Science Education* **22**, 4 (2013) 489 - 495. SJR (2015): 0.190
- 3.8 H. Popova, D. Petkova, **V. Tonchev\***, Generic Instability in the Model of Diffusion-Limited Aggregation (DLA): The Effect of Global Radii of Birth and Killing, *Chemistry: Bulgarian Journal of Science Education* **23**, 2 (2014) 260-268. SJR (2015): 0.190

\* кореспондиращ автор

#### 4. Други публикации

- 4.1 B. Ranguelov, **V. Tonchev\***, C. Misbah, Step Bunching in Conserved Systems: Scaling and Universality, in: Nanoscience and Nanotechnology **6**, E. Balabanova and I. Dragieva(eds.), Heron Press, Sofia, (2006) 31-35.
- 4.2 D. Staneva, B. Ranguelov, **V. Tonchev\***, Numerical modeling of dynamical phenomena on crystal surfaces: Models of step bunching, Nanoscience and Nanotechnology **10**, (2010) 11-14.
- 4.3 K. Siewierska, **V Tonchev\***, Scaling of the minimal step-step distance with the step-bunch size: Theoretical predictions and experimental findings, J. Japanese Association of Crystal Growth **43**, 4 (2016) 204 – 2012. (a mini-review)

Брой публикации, представени за конкурса 24(26). По групи те са разпределени както следва: от група 1 – 12 статии, 2 – 1 (3), 3 - 8, 4 – 3.

Цитирани са общо 75 пъти.

**Преизчислен брой публикации:  $(12+2.5) + 1(3)*0.7 + 8*0.5 = 14.5 + 0.7(2.1) + 4 = 19.2 (20.6)$**

Водещ принос, доказуем формално: 3 (+6\*0.5).

По времето, когато горните статии са изпращани за печат, не съм бил запознат с дефиницията за *водещ принос* (BT).

\* кореспондиращ автор

**Списък на всички научни трудове на  
доцент доктор Веселин Тончев  
Институт по Физикохимия „Акад. Ростислав Каишев“ – БАН,  
Юни 2017 г.**

- i. Публикации в реномирани международни списания с импакт-фактор
- i.1 I.Iliev, P.Atanasov, S.Gamburzev, A.Kaisheva, **V.Tonchev**, Sensors and Actuators B **8**, 1 (1992) 65 - 72. Цитирана е 10 пъти
- i.2 K.Starbova, D.Kozhuharova, N.Starbov, **V.Tonchev**, Formation of Ordered Structures in the Thin-Film Amorphous Carbon/Silicate Glass System, Journal of Physical Chemistry **96**, (1992) 9964 - 9967. Цитирана е 2 пъти
- i.3 **V.Tonchev**, F.Babalievski, Solid State Communications **87**, 7 (1993) 597 - 599.
- i.4 **V.Tonchev**, Chr.Nanev, Crystal Research and Technology **30**, 8 (1995) 1105 - 1109.
- i.5 I.Avramov, **V.Tonchev**, Kinetics of structural relaxation in a constrained dynamics system, Journal of Non-Crystalline Solids **194**, (1996) 122 - 128. Цитирана е 2 пъти
- i.6 S.Stoyanov, **V.Tonchev**, Physical Review B **58**, 3 (1998) 1590 - 1600. Цитирана е 47 пъти
- i.7 S.Stoyanov, J.J. Métois, **V.Tonchev**, Surface Science **465**, 3 (2000) 227 - 242. Цитирана е 8 пъти
- i.8 A. Pimpinelli, **V. Tonchev**, A. Videcoq, M. Vladimirova, Physical Review Letters **88**, 20 (2002) 206103. [Virtual Journal of Nanoscale Science & Technology 5, 19 (2002).] Цитирана е 35 пъти
- i.9 H.Omi, D.Bottomley, Y. Homma, T. Ogino, S. Stoyanov, **V. Tonchev**, Shape of atomic steps on Si(111) under localized stress, Physical Review B **66**, (2002) 085303. Цитирана е 2 пъти
- i.10 H.Omi, Y. Homma, T. Ogino, S. Stoyanov, **V. Tonchev**, Design of atomic step networks on Si(111) through strain distribution control, Journal of Applied Physics **95**, 1 (2004) 263 - 266. ИФ (2015 г.): 2.101 Цитирана е 1 път

- i.11 J.Krug, **V.Tonchev**, S.Stoyanov, A.Pimpinelli, Scaling properties of step bunches induced by sublimation and related mechanisms, *Physical Review B* **71**, (2005) 045412. ИФ (2015 г.): 3.718 Цитирана е 29 пъти
- i.12 H.Omi, Y. Homma, **V. Tonchev**, A.Pimpinelli, New types of unstable step-flow growth on Si(111)-7x7 during molecular beam epitaxy: Scaling and universality, *Physical Review Letters* **95**, (2005) 216101. ИФ (2015 г.): 7.645 Цитирана е 11 пъти
- i.13 **V.Tonchev**, B. Ranguelov, H.Omi, A. Pimpinelli, Scaling and universality in models of step bunching: the “C+-C-” model, *European Physical Journal B* **73**, (2010) 539 – 546. ИФ (2015 г.): 1.223 Цитирана е 5 пъти
- i.14 C.Nanev, **V.Tonchev**, F.Hodzhaoglu, Protocol for growing insulin crystals of uniform size, *Journal of Crystal Growth* **375**, (2013) 10 – 15. ИФ (2015 г.): 1.462 Цитирана е 1 път
- i.15 **V.Tonchev**, C. Nanev, Growth and dissolution of equally-sized insulin crystals, *Crystal Research and Technology* **48**, 11 (2013) 1003 – 1010. ИФ (2015 г.): 0.908
- i.16 G. Georgiev, N. Yokoi, S. Ivanova, **V. Tonchev**, Y. Nancheva and R. Krastev, Surface relaxations as a tool to distinguish the dynamic interfacial properties of films formed by normal and diseased meibomian lipids, *Soft matter* **10**, 30 (2014) 5579-5588. ИФ (2015 г.): 3.798 Цитирана е 15 пъти
- i.17 O.Dimitrov, D. Nesheva, V. Blaskov, I. Stambolova, S. Vassilev, Z. Levi, **V.Tonchev**, Gas sensitive ZnO thin films with desired (002) or (100) orientation obtained by ultrasonic spray pyrolysis, *Materials Chemistry and Physics* **148**, 3 (2014) 712 – 719. ИФ (2015 г.): 2.101 Цитирана е 7 пъти
- i.18 C. Nanev, **V. Tonchev**, Sigmoid kinetics of protein crystal nucleation, *Journal of Crystal Growth* **427**, (2015) 48 – 53. ИФ (2015 г.): 1.462 Цитирана е 1 път
- i.19 S. Ivanova, **V. Tonchev**, N. Yokoi, M. C. Yappert, D. Borchman, and G. As. Georgiev, Surface Properties of Squalene/Meibum Films and NMR Confirmation of Squalene in Tears, *International Journal of Molecular Sciences* **16**, (2015) 21813-21831. ИФ (2015 г.): 3.257 Цитирана е 2 пъти.

i.20 I. Avramov, **V. Tonchev**, Maximal density, kinetics of deposition and percolation threshold of loose packed lattices, Physics Letters A **380**, 20 (2016) 1684 – 1688. ИФ (2015 г.): 1.677

i.21 D. Goranova, R. Rashkov, G. Avdeev, **V. Tonchev\***, Electrodeposition of Ni–Cu alloys at high current densities: details of the elements distribution, Journal of Materials Science **51**, 18 (2016) 8663–8673. ИФ (2015 г.): 2.302,  
Цитирана е 1 път

i.22 Petar Eftimov, Norihiko Yokoi, Vesselin Tonchev, Yana Nencheva, Georgi As. Georgiev, Surface properties and exponential stress relaxations of mammalian meibum films, European Biophysics Journal **46**, (2017) 129-140.

Статии i.2, i.14, i.16, i.17, i.19, i.21, i.22 съдържат *съществени* експериментални резултати, получени в България, следователно *преизчисленият брой статии в този раздел е 25.5*

ii. Публикувани в пълн текст доклади на международни конференции и форуми в реномирани международни списания с импакт-фактор;

ii.1. Anna Krasteva, Hristina Popova, Filip Krzyżewski, Magdalena Załuska-Kotur and Vesselin Tonchev, Unstable vicinal crystal growth from cellular automata, AIP Conference Proceedings 1722, 220014 (2016).

ii.2. Anna Krasteva, Hristina Popova, Noriko Akutsu and Vesselin Tonchev, Time scaling relations for step bunches from models with step-step attractions (B1- type models), AIP Conference Proceedings 1722, 220015 (2016).

ii.3 F. Krzyżewski, M. Załuska-Kotur, A. Krasteva, H. Popova, V. Tonchev, Step bunching and macrostep formation in 1D atomistic scale model of unstable vicinal crystal growth, Journal of Crystal Growth, 10.1016/j.jcrysgr.2016.11.121.

Преизчисленият брой статии в този раздел е 0.7 (2.1).

iii. Публикации в реномирани национални списания:



- iii.1 V.Tonchev, M.Michailov, Bulgarian Chemical Communications **28**, 3/4 (1995) 770 - 778.
- iii.2 S.Stoyanov, V.Tonchev, Bulgarian Chemical Communications **29**, 3/4 (1996/97) 509 - 525.
- iii.3 I.Avramov, V.Tonchev, Bulgarian Chemical Communications **31**, 2 (1999) 263 - 268.
- iii. 4 B. Ranguelov, V. Tonchev, H.Omi, A.Pimpinelli, New Universality Class For Step Bunching in the "C+ - C-" Model, Comptes rendus de l'Academie bulgare des Sciences **60**, 4 (2007) 389 - 394.
- iii.5 V.Tonchev, R.Yakimova, About the diffusion, fractals, scaling and universality, Monte Carlo method or over quarter century of the model of Diffusion-Limited Aggregation, Chemistry **17**, 1 (2008), 47 - 56.
- iii.6 V.Tonchev, B.Ranguelov, Chemical Spirals, Chemistry **19**, 6 (2010) 405 – 416.
- iii.7 B.Ranguelov, D. Goranova, V. Tonchev, R. Yakimova, Diffusion Limited Aggregation with modified local rules, Comptes Rendus de l'Academie bulgare des Sciences **65**, 7 (2012) 913 – 918. arXiv:1105.5558v1
- iii.8 D.Staneva, B. Ranguelov, V. Tonchev, Hybrid models of step bunching, Comptes Rendus de l'Academie bulgare des Sciences **65**, 8 (2012) 1049 – 1056.
- iii.9 V. Tonchev, Classification of step bunching phenomena, Bulgarian Chemical Communications **44**, 3 (2012) 322 - 328.
- iii.10 V.Tonchev, DIMENSIONAL ANALYSIS: AN EXAMPLE, Chemistry: Bulgarian Journal of Science Education **22**, 4 (2013) 489 – 495.
- iii.11 H. Popova, D. Petkova, V. Tonchev, Generic Instability in the Model of Diffusion-Limited Aggregation (DLA): The Effect of Global Radii of Birth and Killing, CHEMISTRY: BULGARIAN JOURNAL OF SCIENCE EDUCATION **23**, 2 (2014) 260-268.

Преизчисленият брой статии в този раздел е 5.5

iv. Други публикации

- iv.1 V. Tonchev, M. Michailov, in: M.Michailov, I.Gutzow(eds.), "Thin Films and Phase Transitions of Surfaces", Proceedings of the EWSSW '94, Pamporovo, Bulgaria, 249 - 254.
- iv.2 D.Kozhuharova, K.Starbova, N.Starbov, V.Tonchev, in: M.Michailov, I.Gutzow(eds.), "Thin Films and Phase Transitions of Surfaces", Proceedings of the EWSSW '94, Pamporovo, Bulgaria, 255 - 261.
- iv.3 D.Kozhuharova, K. Starbova, N. Starbov, V. Tonchev, in: M.Michailov (ed.), "Thin Films and Phase Transitions of Surfaces", Proceedings of the EWSSW '96, Pamporovo, Bulgaria, 239 - 248.
- iv.4 S.Stoyanov, J.J. Métois, V.Tonchev, in: Collective Diffusion on Surfaces: Correlation Effects and Adatom Interactions, M.C.Tringides and Z.Chvoj (eds.), NATO ASI series, (2001) 33 - 45.
- iv.5 S.Stoyanov, J.J. Métois, V.Tonchev, J. Japanese Association for Crystal Growth **29**, 1 (2002) 17 - 19.
- iv.6 S.Stoyanov, J.J. Metois, V.Tonchev, in: Atomistic Aspects of Epitaxial Growth, M.Kotrla et al. (eds), Kluwer Academic Publishers, Netherlands, (2002) 267 - 279.
- iv.7 Веселин Тончев, "Групиране на Стъпала върху Вицинални Кристални Повърхности – Теория и Компютърно Моделиране", дисертация за присъждане на образователната и научна степен "Доктор", София, 2002.
- iv.8 K. Starbova, N. Starbov, V. Tonchev, Mesoscaled Patterning in Nanostructured Thin Films/Silicate Glass Systems, in: Nanoscience and Nanotechnology **5**, E.Balabanova and I.Dragieva (eds.), Heron Press Science Series, Sofia 2005, 77 - 80.
- iv.9 V. Stoyanova; V. Tonchev, E. Popova, Ground state of 2D quadrumer block crystals with square lattices and asymmetric nearest neighbour interactions in Nanoscience and Nanotechnology **5**, E. Balabanova and I. Dragieva(eds.), Heron Press, Sofia, 2005, 19 – 22.
- iv.10 B. Ranguelov, V. Tonchev, C. Misbah, Step Bunching in Conserved Systems: Scaling and Universality, in Nanoscience and Nanotechnology **6**, E. Balabanova and I. Dragieva(eds.), Heron Press, Sofia, (2006) 31-35.

- iv.11 V.Tonchev, The TRIZ method: the solution is built into the problem, Journal of Engineering Creation and Technology **62**, (2008) 42 - 46.
- iv.12 D. Staneva, B. Ranguelov, V. Tonchev, NUMERICAL MODELING OF DYNAMICAL PHENOMENA ON CRYSTAL SURFACES: MODELS OF STEP BUNCHING, Nanoscience and Nanotechnology **10**, (2010) 11-14.
- iv.13 Katarzyna Siewierska and Vesselin Tonchev, Scaling of the minimal step-step distance with the step-bunch size: Theoretical predictions and experimental findings, J. Japanese Association of Crystal Growth **43**, 4 (2016) 204 – 2012. ISSN: 2187-8366 / 0385-6275

**i – 22, ii – 3, iii- 11, iv – 13, общо 49.**

Преизчислен брой публикации:  $22 + 3.5 + 1(3)*0.7 + 11*0.5 = 25.5 + 0.7(2.1) + 6.5 = 32.7 (34.1)$  , в зависимост от това признават ли се статии ii.1 и ii.2, които имат SJR, а не ИФ.

„Златни“ статии (с повече от 20 цитирания) – 3: i.6, i.8 и i.11.

h-index = 7:

1. i.6 – 47 цитата
2. i.8 – 35 цитата
3. i.11 – 29 цитата
4. i.16 – 15 цитата
5. i.12 – 11 цитата
6. i.1 – 10 цитата
7. i.7 – 8 цитата
8. i.17 – 7 цитата