

Цитирания на научните трудове на проф дфн Х. Шамати

брой известни цитирания без цитиране на всички автори: **749**
h-index = 13 – i10-index = 18

1. H. Chamati and N. S. Tonchev, *Long-range order of an exactly solvable model of a quantum antiferromagnet*, phys. stat. sol. (b) **174** (1992) 505–512.
2. H. Chamati and N. S. Tonchev, *Long-range order in a quantum model of structural phase transition*, Preprint E17-92-565, JINR, Dubna, Russia, 1992 (10 pages).
3. H. Chamati and N. S. Tonchev, *Symmetry breaking and long-range order: An n-component model of a structural phase transition*, Phys. Rev. B **49** (1994) 4311–4314.
 - 3.1. N. Angelescu, A. Verbure and V.A. Zagrebnov, *Quantum n-vector anharmonic crystal I: 1/n-expansion*, Comm. Math. Phys. **205** (1999) 81.
4. H. Chamati, *Tricritical behaviour in a simple model of an itinerant antiferromagnet*, phys. stat. sol. (b) **182** (1994) 189–199.
5. H. Chamati, *T = 0 finite-size scaling for a quantum system with long-range interaction*, Physica A **212** (1994) 357–368. [Preprint IC/94/103, ICTP, Trieste, Italy (17 pages)].
 - 5.1. E.S. Pisanova and N.S. Tonchev, *On the interplay of classical and quantum fluctuations in a finite-size system*, Proceedings of the 8-th International School on Condensed Matter Physics from 19 to 23 September 1994, Varna, Bulgaria, Research Studies Press, pp. 393–400.
 - 5.2. E.S. Pisanova and N.S. Tonchev, *Universal amplitudes in finite-size scaling for an anharmonic crystal*, Physica A **217** (1995) 419.
 - 5.3. E.S. Pisanova and N.S. Tonchev, *Modified finite-size scaling for anharmonic crystal with quantum fluctuations*, ICTP-preprint IC/95/153, (1995).
 - 5.4. E.S. Pisanova and N.S. Tonchev, *Modified finite-size scaling for anharmonic crystals with quantum fluctuations*, Physica A **227** (1996) 325.
 - 5.5. E.S. Pisanova, “Нискотемпературни режими и крайноразмерен скейлинг в някои точно решавани квантови модели”, PhD Thesis, ISSP-BAS 1998.
 - 5.6. J.G. Brankov, D.M. Danchev and N.S. Tonchev, “*The theory of critical phenomena in finite-size systems*”, Singapore, World Scientific, 2000.
 - 5.7. E.S. Pisanova, N.B. Ivanov and N.S. Tonchev, *Finite size and temperature effects in the J_1 - J_2 model on a strip*, Phys. Rev. B **65** (2002) 212404.
 - 5.8. N.S. Tonchev, *Finite-Size Scaling and Long-Range Interactions*, Phys. Part. Nuclei 36 (Suppl. 1) (2005) S82
 - 5.9. D.M. Danchev, “*Статистическо-механичен ефект на Казимир*”, DSc Thesis, IMBM-BAS 2005.
 - 5.10. N.S. Tonchev, *Finite-size scaling in anisotropic systems*, Phys. Rev. E **75** (2007) 031110.
 - 5.11. E.S. Pisanova and N.S. Tonchev, *On the quantum critical behaviour of a model of structural phase transitions with long-range interaction*, J. Phys.: Conf. Ser. **253** (2010) 012020.

- 5.12. E. Pisanova and S. Ivanov, *On the critical specific heat capacity of a classical anharmonic crystal with long-range interaction*, J. Phys.: Conf. Ser. 558 (2014) 012019
- 5.13. E.S. Pisanova and A.Y. Krushkov, *On the Low-temperature Behavior of the Critical Specific Heat Capacity of an Anharmonic Crystal with Long-range Interaction*, AIP Conf. Series **1722** (2016) 220016.
- 5.14. E.S. Pisanova, K.T. Nikolova, *On the low-temperature critical behaviour of a quantum model of structural phase transitions*, Bulg. Chem. Commun. **48** (2016) 348.
- 5.15. D.M. Dantchev and S. Dietrich, *Critical Casimir Effect: Exact Results*, Phys. Rep. **1005** (2023) 1. doi: [10.1016/j.physrep.2022.12.004](https://doi.org/10.1016/j.physrep.2022.12.004)
- 5.16. E.S. Pisanova, *On the classical critical behavior of the specific heat capacity of a model of structural phase transitions with a long-range interaction*, J. Phys. Conf. Ser. **2436** (2023) 012012. doi: [10.1088/1742-6596/2436/1/012012](https://doi.org/10.1088/1742-6596/2436/1/012012)
6. X. Шамати, *Далечен порядък в някои точно решавани квантови модели*, автореферат на дисертация за получаване на научната степен кандидат на физически науки (научно образователна степен доктор), 1994.
7. H. Chamati and N. S. Tonchev, *On the finite-size shift of the critical temperature*, in: J. M. Marshall, N. Kirov, A. Vavrek (Eds.), Proceedings of the 8th ISCMP, “Electronics, Optoelectronics and Magnetic Thin Films”, Varna, Bulgaria 18th–23rd Sep. 1994 (Research Studies, Tauten, Somerset, UK, 1995) pp. 728–731.
8. H. Chamati and N. S. Tonchev, *Finite-size shift of the critical temperature in the spherical model*, J. Stat. Phys. **83** (1996) 1211–1218.
- 8.1. E. Luijten, “*Interaction Range, Universality and the Upper Critical Dimension*”, PhD Thesis, Technische Universiteit Delft, Netherlands, 1998.
- 8.2. L. Dell’Anna, S. Fantoni, P. Sodano, A. Trombettoni, *Critical temperature of non-interacting Bose gases on disordered lattices*, J. Stat. Mech. (2008) P11012.
9. H. Chamati, D. M. Danchev, E. S. Pisanova and N. S. Tonchev, *Low-temperature regimes and finite-size scaling in a quantum spherical model*, Preprint IC/97/82, ICTP, Trieste, Italy, 1997 (37 pages).
10. H. Chamati, E. S. Pisanova and N. S. Tonchev, *Theory of a spherical-quantum-rotors model: Low-temperature regime and finite-size scaling*, Phys. Rev. B **57** (1998) 5798–5811.
- 10.1. D. Danchev, *Exact three-dimensional Casimir force amplitude, C function, and Binder’s cumulant ratio: Spherical model results*, Phys. Rev. E **58** (1998) 1455.
- 10.2. A.C. Petkou and N.D. Vlachos, *Finite-Size and Finite-Temperature Effects in the Conformally Invariant $O(N)$ Vector Model for $2 < d < 4$* , ArXiv eprints, hep-th/9809096v2 (1998).
- 10.3. S. Sachdev, *Quantum phase transitions*, Cambridge, University Press, 1999.
- 10.4. D.M. Danchev, “*Статистическо-механичен ефект на Казимир*”, DSc Thesis, IMBM-BAS 2005.
- 10.5. M. H. Oliveira, E. P. Raposo, and M. D. Coutinho-Filho, *Quantum spherical spin model on hypercubic lattices*, Phys. Rev. B **74** (2006) 184101.
- 10.6. T. A. Zaleski and T. K. Kopeć, *Superfluid-to-Mott transition in optical lattices with restricted geometry*, J. Phys. A: Math. Theor. **43** (2010) 425303.

- 10.7. P. F. Bienzobaz, P. R. S. Gomes and M. Gomes, *Stochastic Quantization of the Spherical Model and Supersymmetry*, J. Stat. Mech. P09018 (2013).
- 10.8. S. Wald and M. Henkel, *Quantum phase transition in the spin-anisotropic quantum spherical model*, J. Stat. Mech. (2015) P07006.
- 10.9. B. Grygiel, K. Patucha and T. A. Zaleski, *Coherence of interacting bosons in optical lattices in synthetic magnetic fields with a large number of subbands*, Phys. Rev. A **93** (2016) 053607.
- 10.10. T.A. Zaleski and T.K. Kopeć, *Coherence and spectral weight transfer in the dynamic structure factor of cold lattice bosons*, Physica B **504** (2017) 74.
- 10.11. T.A. Zaleski and T.K. Kopeć, *Berezinskii–Kosterlitz–Thouless transition of ultracold atoms in optical lattice*, J. Phys. B: At. Mol. Opt. Phys. **50** (2017) 085006.
- 10.12. B. Grygiel, K. Patucha and T. A. Zaleski, *Intraband and interband conductivity in systems of strongly interacting bosons*, Phys. Rev. B **96** (2017) 094520.
- 10.13. P. Jakubczyk and J. Wojtkiewicz, *Phase diagram and correlation functions of the anisotropic imperfect Bose gas in d dimensions*, J. Stat. Mech. (2018) 053105
- 10.14. K. Patucha, B. Grygiel, T.A. Zaleski, *Hall effect for interacting bosons in a lattice*, Phys. Rev. B. **97** (2018) 214522.
- 10.15. S. Wald, R. Arias and V. Alba, *Closure of the entanglement gap at quantum criticality: The case of the Quantum Spherical Model*, PRResearch **2** (2020) 043404.
- 10.16. B. Grygiel and T.A. Zaleski, *Momentum-resolved conductivity of strongly interacting bosons in an optical lattice*, Phys. Rev. B **104** (2021) 104511.
- 10.17. D.M. Dantchev and S. Dietrich, *Critical Casimir Effect: Exact Results*, Phys. Rep. **1005** (2023) 1. doi: [10.1016/j.physrep.2022.12.004](https://doi.org/10.1016/j.physrep.2022.12.004)
- 11.** H. Chamati, D. M. Danchev and N. S. Tonchev, *Finite-size scaling properties and Casimir forces in an exactly solvable quantum statistical–mechanical model*, J. Theor. App. Mech. **28** (1998) 78–87; Cond–mat/9709115.
- 11.1. F. Parisen Toldin and S. Dietrich, *Critical Casimir forces and adsorption profiles in the presence of a chemically structured substrate*, J. Stat. Mech. (2010) P11003.
- 11.2. F. Parisen Toldin, M. Tröndle and S Dietrich, *Line contribution to the critical Casimir force between a homogeneous and a chemically stepped surface*, J. Phys.: Condens. Matter **27** (2015) 214010.
- 12.** H. Chamati and N. S. Tonchev, *Finite-size scaling investigations in the quantum φ^4 – model with long-range interaction*, J. Phys. A: Math. Gen. **33** (2000) 873–890.
- 12.1. Y. Chen and Z. Li, *Short-time critical behaviour of anisotropic cubic systems with long-range interaction*, J. Phys. A: Math. Gen. **34** (2001) 1549–1560.
- 12.2. Y. Chen, L.B. Li, H. Fang, S.S. He and S.P. Situ, *Dynamics of the random Ising model with long-range interaction*, Commun. Theor. Phys. **36** (2001) 469–472.
- 12.3. F. Cosenza, *Critical properties of exactly solvable quantum models*, Phys. Lett. A **304** (2002) 106–109
- 12.4. Y. Chen and Z.B. Li, *Short-time dynamics of the random n -vector model with long-range interaction*, Mod. Phys. Lett. B **17** (2003) 1227–1236.
- 12.5. Y. Chen, *The aging behavior of the random n -vector model with long-range interaction*,

- Mod. Phys. Lett. B **21** (2007) 1555–1568.
- 12.6. Y. Benhouria, I. Essaoudi, A. Ainane, M. Saber, R. Ahuja and F. Dujardin, *Monte Carlo Study of Long-Range Interactions of a Ferroelectric Bilayer with Antiferroelectric Interfacial Coupling*, J. Supercond. Nov. Magn. **26** (2013) 3075.
 - 12.7. E.S. Pisanova, K.T. Nikolova, *On the low-temperature critical behaviour of a quantum model of structural phase transitions*, Bulg. Chem. Commun. **48** (2016) 348.
 - 12.8. E.S. Pisanova and E.G. Gateva, *On the Critical Specific Heat of a Quantum System with Long-range Interaction*, J. Phys. Technol. **1** (2017) 36.
 - 12.9. E.S. Pisanova and I.Kr. Ivanov, *Universal Critical Amplitudes in a Quantum Spherical Model: Entropy, Internal Energy and Specific Heat*, AIP Conf. Proc. **2075** (2019) 020010.
 - 12.10. S. Wald, R. Arias and V. Alba, *Closure of the entanglement gap at quantum criticality: The case of the Quantum Spherical Model*, PRRsearch **2** (2020) 043404.
 - 12.11. N.P. Nedev and E.S. Pisanova, *Finite-size scaling and bulk critical behavior of a quantum spherical model with a long-range interaction: entropy, internal energy and specific heat*, J. Phys.: Conf. Ser. **1762** (2021) 012016.
 - 13.** H. Chamati, D. M. Danchev and N. S. Tonchev, *Casimir amplitudes in a quantum spherical model with long-range interaction*, Eur. Phys. J. B **14** (2000) 307–316.
 - 13.1. S. Caracciolo, A. Gambassi, M. Gubinelli and A. Pelissetto, *Shape dependence of the finite-size scaling limit in a strongly anisotropic model*, Eur. Phys. J. B **34** (2003) 205–217.
 - 13.2. M. H. Oliveira, E. P. Raposo, and M. D. Coutinho-Filho, *Quantum spherical spin model on hypercubic lattices*, Phys. Rev. B **74** (2006) 184101.
 - 13.3. L. Pálová, P. Chandra and P. Coleman, *Quantum critical paraelectrics and the Casimir effect in time*, Phys. Rev. B **79** (2009) 075101.
 - 13.4. L. Pálová, “*Three theoretical studies of ferroelectric materials in different geometries*”, PhD Thesis, Rutgers University, New Jersey (2010).
 - 13.5. S. Wald and M. Henkel, *Quantum phase transition in the spin-anisotropic quantum spherical model*, J. Stat. Mech. (2015) P07006.
 - 13.6. E. S. Pisanova and S. I. Ivanov, *Non-universal critical properties of the ferromagnetic mean spherical model with long-range interaction*, Bul. Chem. Commun. **47**, SI B (2015) 269.
 - 13.7. G.S. Valchev, “*Fluctuation-Induced Interactions in Finite-Size Fluid Systems*”, PhD Thesis, IMBM–BAS 2015.
 - 13.8. E.S. Pisanova, K.T. Nikolova, *On the low-temperature critical behaviour of a quantum model of structural phase transitions*, Bulg. Chem. Commun. **48** (2016) 348.
 - 13.9. E.S. Pisanova and E.G. Gateva, *On the Critical Specific Heat of a Quantum System with Long-range Interaction*, J. Phys. Technol. **1** (2017) 36.
 - 13.10. E.S. Pisanova and I.Kr. Ivanov, *Universal Critical Amplitudes in a Quantum Spherical Model: Entropy, Internal Energy and Specific Heat*, AIP Conf. Proc. **2075** (2019) 020010.
 - 13.11. E.S. Pisanova, *Entropy and specific heat of a critical quantum system with long-range interaction*, J. Phys.: Conf. Ser. **1186** (2019) 012015.
 - 13.12. N.P. Nedev and E.S. Pisanova, *Finite-size scaling and bulk critical behavior of a quantum spherical model with a long-range interaction: entropy, internal energy and specific*

- heat, J. Phys.: Conf. Ser. **1762** (2021) 012016.
14. H. Chamati and N. S. Tonchev, *Exact results for some Madelung-type constants in the finite-size scaling theory*, J. Phys. A: Math. Gen. **33** (2000) L167–L170.
 - 14.1. D. Dantchev and J. Rudnick, *Subleading long-range interactions and violations of finite size scaling*, Eur. Phys. J. B **21** (2001) 251–268.
 - 14.2. S. Curilef, L.A. del Pino and P. Orellana, *Ferromagnetism in one dimension: Critical temperature*. Phys. Rev. B **72**, 224410 (2005)
 - 14.3. E.S. Pisanova, *On the role of the quantum fluctuations in a model of an anharmonic crystal*, J. Optoelectron. Adv. Mater. **9** (2007) 144–147.
 - 14.4. L.A. del Pino, P. Troncoso and P. Orellana, *Thermodynamics from a scaling Hamiltonian*, Phys. Rev. B **76** (2007) 172402.
 - 14.5. L.A. del Pino, P. Troncoso and S. Curilef, *Critical temperature of a chain of long range interacting ferromagnets*, J. Phys.: Conf. Ser. **134** (2008) 012030
 - 14.6. M. Mamode, *Computation of the Madelung constant for hypercubic crystal structures in any dimension*, J. Math. Chem. **55** (2017) 743.
 - 14.7. M. Mamode, *Electrical resistance between pairs of vertices of a conducting cube and continuum limit for a cubic resistor network*, J. Phys. Commun. **1** (2017) 035002.
 15. H. Chamati, N. Tonchev and D. Danchev, *Some new exact critical-point amplitudes*, Phys. Part. Nucl. **31** (7b) (2000) 170–175.
 16. H. Chamati and N. S. Tonchev, *Scaling behavior for finite $O(n)$ systems with long-range interaction*, Phys. Rev. E **63** (2001) 026103 (9 pages).
 - 16.1. N. Chen and Z. Li, *Short-time critical behaviour of anisotropic cubic systems with long-range interaction*, J. Phys. A: Math. Gen. **34** (2001) 1549–1560.
 - 16.2. D. Danchev and J. Rudnick, *Subleading long-range interactions and violations of finite size scaling*, Eur. Phys. J. B **21** (2001) 251–268.
 - 16.3. D. Danchev, *Two-point correlation function in systems with van der Waals type interaction*, Eur. Phys. J. B **23** (2001) 211–219.
 - 16.4. Y. Chen, L.B. Li, H. Fang, S.S. He and S.P. Situ, *Dynamics of the random Ising model with long-range interaction*, Commun. Theor. Phys. **36** (2001) 469–472.
 - 16.5. E. Luijten and H.W.J. Blöte, *Boundary between Long-Range and Short-Range Critical Behavior in Systems with Algebraic Interactions*, Phys. Rev. Lett. **89** (2002) 25703.
 - 16.6. Y. Chen and Z.B. Li, *Short-time dynamics of the random n -vector model with long-range interaction*, Mod. Phys. Lett. B **17** (2003) 1227–1236.
 - 16.7. Y. Chen, *The aging behavior of the random n -vector model with long-range interaction*, Mod. Phys. Lett. B **21** (2007) 1555–1568.
 - 16.8. Y. Benhouria, I. Essaoudi, A. Ainane, M. Saber, R. Ahuja and F. Dujardin, *Monte Carlo Study of Long-Range Interactions of a Ferroelectric Bilayer with Antiferroelectric Interfacial Coupling*, J. Supercond. Nov. Magn. **26** (2013) 3075.
 - 16.9. E.S. Loscar and C.M. Horowitz, *Size effects in finite systems with long-range interactions*, Phys. Rev. E **97** (2018) 032103.
 17. H. Chamati and D. M. Danchev, *Casimir amplitudes in a ferromagnetic model with long-range interaction*, in: J. Marshall, A. Petrov, A. Vavrek, D. Nesheva, D. Dimova–Malinosvka,

- J. Maud (Eds.), Proceedings of the 11th ISCMP, “Materials for information technology in the new millennium”, Varna, Bulgaria, 3rd–8th Sep. 2000 (Bookcraft, Bath, U.K., 2001) pp. 400–403.
18. H. Chamati, E. Korutcheva and N. S. Tonchev, *On the finite-size scaling in disordered systems*, Preprint IC/2001/093, ICTP, Trieste, Italy, 2001; (13 pages).
 19. H. Chamati, *Finite-size scaling in systems with long-range interaction*, Eur. Phys. J. B **24** (2001) 241–249.
 - 19.1. T. Antal, M. Droz, G. Gyorgyi and Z. Racz, *Roughness distributions for $1/f^\alpha$ signals*, Phys. Rev. B **65** (2002) 46120.
 - 19.2. J. Kaupužs, *Transfer matrix and Monte Carlo tests of critical exponents in lattice models*, ArXiv eprints: cond-mat/0201221 (2002).
 - 19.3. J. Kaupužs, Proc. of SPIE *Energy fluctuations and the singularity of specific heat in a 3D Ising model*, **5471** (2004) 480.
 - 19.4. N.S. Tonchev, *Finite-Size Scaling and Long-Range Interactions*, Phys. Part. Nuclei **36** (Suppl. 1) (2005) S82.
 - 19.5. D. Grüneberg, “*Einfluss van-der-Waals-artiger Wechselwirkungen auf den thermodynamischen Casimir-Effekt*”, Universität Duisburg-Essen, Germany, 2008.
 20. H. Chamati, E. Korutcheva and N. S. Tonchev, *Finite-size scaling in disordered systems*, Phys. Rev. E **65** (2002) 026129 (10 pages).
 - 20.1. Y. Chen and Z.B. Li, *Short-time dynamics of spin systems with long-range correlated quenched impurities*, Phys. Rev. B **71** (2005) 174433.
 - 20.2. C. Monthus, *Random walks and polymers in the presence of quenched disorder*, Lett. Math. Phys. **78** (2006) 207–233.
 - 20.3. C. Monthus and T. Garel, *Random polymers and delocalization transitions*, Markov Processes and Related Fields **13** (2007) 731–760; cond-mat/0605448v1.
 - 20.4. A. Gordillo-Guerrero and J. J. Ruiz-Lorenzo, *Ausencia de autpromedio en el modelo de Heisenberg diluido tridimensional*, Poster Abstract “XIV Congreso de Física Estadística Granada, 14 – 16 de Septiembre de 2006”.
url: http://ergodic.ugr.es/fises06/POSTERPDF/fises_gordillo.pdf
 - 20.5. A. Gordillo-Guerrero and J. J. Ruiz-Lorenzo, *Self-averaging in the three-dimensional site diluted Heisenberg model at the critical point*, J. Stat. Mech. (2007) P06014.
 - 20.6. A. Shreim, A. Berdahl, V. Sood, P. Grassberger, M. Paczuski, *Complex network analysis of state spaces for random Boolean networks*, New J. of Phys. **10** (2008) 013028.
 - 20.7. A. Gordillo-Guerrero, “*Phase Transitions in Disordered Systems*”, arXiv:1004.1579v1 [cond-mat.dis-nn] (2010).
 - 20.8. L.S. Li, W. Chen, W. Dong and X.S. Chen, *Critical behavior of two-dimensional magnetic lattice gas model*, Eur. Phys. J. B **80** (2011) 189.
 - 20.9. I. Balog, “*Continuous phase transition induced by quenched disorder*”, PhD Thesis, University of Zagreb, 2011.
 - 20.10. N.G. Fytas and V. Martin-Mayor, *Efficient numerical methods for the random-field Ising model: Finite-size scaling, reweighting extrapolation, and computation of response functions*, Phys. Rev. E **93** (2016) 063308.

- 20.11. C. Monthus, *Finite size scaling for the Many-Body-Localization Transition : finite-size-pseudo-critical points of individual eigenstates*, J. Stat. Mech. (2016) 123303.
- 20.12. B.R. de Abreu, *Numerical quenches of disorder in the Bose-Hubbard model*, Universidade Estadual de Campinas, Brazil, 2018
21. H. Chamati and D. M. Dantchev, *Renormalization group treatment of the scaling properties of finite systems with subleading long-range interaction*, Eur. Phys. J. B **26** (2002) 89–99.
- 21.1. N.S. Tonchev, *Finite-Size Scaling and Long-Range Interactions*, Phys. Part. Nuclei 36 (Suppl. 1) (2005) S82.
- 21.2. S. Reynal, “*Phase Transitions in Long-range Spin Models: The Power of Generalized Ensembles*” PhD Thesis, Université de Cergy–Pontoise, France, 2005.
- 21.3. D. Grüneberg, “*Einfluss van-der-Waals-artiger Wechselwirkungen auf den thermodynamischen Casimir-Effekt*”, Universität Duisburg–Essen, Germany, 2008.
- 21.4. V. Dohm, *Diversity of critical behavior within a universality class*, Phys. Rev. E **77** (2008) 061128.
- 21.5. C.G. West, A. Garcia-Saez and T.-C. Wei, *Efficient evaluation of high-order moments and cumulants in tensor network states*, Phys. Rev. B **92** (2015) 11503.
- 21.6. R. Singh, K. Dutta and M. K. Nandy, *Nonlocal mode-coupling interactions and phase transition near tricriticality*, EPL **110** (2015) 16003.
- 21.7. C.G. West, *Applications of Tensor Network Algorithms in Quantum Many-Body Physics*, PhD Thesis, Stony Brook University, 2016
22. N. I. Papanicolaou, H. Chamati, G. A. Evangelakis and D. A. Papaconstantopoulos, *Second-moment interatomic potential for Al, Ni and Ni–Al alloys, and molecular dynamics application*, Comput. Mater. Sci. **27** (2003) 191–198.
- 22.1. A.W. Jasper, P. Staszewski, G. Staszewska, N.E. Schultz and D.G. Truhlar, *Analytic Potential Energy Functions for Aluminum Clusters*, J. Phys. Chem. B **108** (2004) 8996–9010.
- 22.2. H.H. Kart, “*Molecular dynamics study of random and ordered metals and metal alloys*”, PhD Thesis, Middle East Technical University, Ankara, Turkey 2004.
- 22.3. A.W. Jasper, Schultz and D.G. Truhlar, *Analytic Potential Energy Functions for Simulating Aluminum Nanoparticles*, J. Phys. Chem. B **109** (2005) 3915–3920.
- 22.4. H.H. Kart, M. Tomak and T. Çagin, *Thermal and mechanical properties of Cu–Au intermetallic alloys*, Modelling Simul. Mater. Sci. Eng. **13** (2005) 657–669.
- 22.5. Yi-Yun Chang, “*Investigation of Structural Properties of Multi-elements Alloy Nanocluster Using Molecular Dynamics Simulation*”, Master Thesis, National Cheng Kung University, Taiwan (2005).
- 22.6. S.–P. Ju, C.–I Weng, Y.–Y. Chang and Y.–Y. Chen, *The effect of added oversized elements on the microstructure of binary alloy nanoparticles*, Nanotechnology **17** (2006) 4748–4757.
- 22.7. H.H. Kart, M. Tomak and T. Çagin, *Molecular Dynamics Study of Thermal Properties of Intermetallic Alloys*, Turk. J. of Phys., **30** (2006) 311–317.
- 22.8. А.А. Мирзоев, Е.А. Каблиман, *Структурная устойчивость и фоновые спектры в системе Ni–Al: расчет методом рекурсии*, Вестник ЮУрГУ, № 7 (2006) 124.
- 22.9. P. Süle, *Anomalous inter-layer atomic transport and the low-temperature amplification*

- of surface instability in Al(111), ArXiv eprints: cond-mat/0606764 (2006).
- 22.10. N.E. Schultz, “Computational nanoscience”, PhD Thesis, University of Minnesota, 2006.
- 22.11. T.-H. Fang, C.-H. Liu, S.-T. Shen, S.D. Prior, *Nanoscratch behavior of multi-layered films using molecular dynamics*, L.-W. Ji and J.-H. Wu, *App. Phys. A* **90** (2008) 753–758.
- 22.12. M.F. Michelon and A. Antonelli, *Nonphysical thermodynamical phases in L_{12} intermetallic alloys from semiempirical tight-binding potentials*, *Comput. Mater. Sci.* **42** (2008) 68.
- 22.13. Y.-Y. Chen, C.-I. Weng, S.-P. Ju and A.-C. Yang, *The effect of the size and bonding strength of the added element on the microstructure of the binary alloy*, *Comput. Mater. Sci.* **43** (2008) 462.
- 22.14. Z.-J. Zhou, W.-J. Li and J.-B. Zhu, *Particle swarm optimization computer simulation of Ni clusters*, *Trans. Nonferrous. Met. Soc. China* **18** (2008) 410.
- 22.15. Z.-J. Zhou, W.-J. Li and J.-B. Zhu, *Theoretical study of Ni-Al nanoalloy clusters using particle swarm optimisation algorithm*, *Mater. Sci. Technol.* **24** (2008) 870.
- 22.16. H. Wang, D. Xu, R. Yang, P. Veyssi re, *The transformation of edge dislocation dipoles in aluminium*, *Acta Materialia* **56** (2008) 4608.
- 22.17. T.-H. Fang and J.-H. Wu, *Molecular dynamics simulations on nanoindentation mechanisms of multilayered films*, *Comput. Mater. Sci.* **43** (2008) 785.
- 22.18. H. Fu, D. Li, F. Peng, T. Gao and X. Cheng, *Ab initio calculations of elastic constants and thermodynamic properties of NiAl under high pressures*, *Comput. Mater. Sci.* **44** (2008) 774.
- 22.19. S. Kavianpour and A. Yavari, *Anharmonic analysis of defective crystals with many-body interactions using symmetry reduction*, *Comput. Mater. Sci.* **44** (2009) 1296.
- 22.20. L. Wang and J.J. Zhao, *Which is the Lowest-Energy Structure of Al_3 Clusters: Assessment of Different Exchange-Correlation Functionals in Density Functional Theory*, *J. Comput. Theor. Nanosci.* **6** (2009) 449–453.
- 22.21. R.E. Voskoboinikov and C.M.F. Rae, *A new γ -surface in $\{111\}$ plane in L_{12} Ni_3Al* , *IOP Conf. Series: Mat. Sci. Eng.* **3** (2009) 012009
- 22.22. N.C. Barnard, S.G.R. Brown, F. Devred, B.E. Nieuwenhuys and J.W. Bakker, *Atomistic simulation of the nano-structural evolution of Raney-type catalysts from spray-atomized NiAl precursor alloys during leaching with NaOH solution*, *Electrochemical Process Simulation III: WIT Transactions on Engineering Sciences* **65** (2009) 151.
- 22.23. M.F. Michelon, “Phase transitions in substitutional alloys and polymorphic liquids through atomistic simulations” PhD thesis, Universidade Estadual de Campinas, 2009.
- 22.24. M.M. Micci and M.W. Crofton, *Hybrid Finite Element/Molecular Dynamics Simulations of Aluminum Particle Wall Collisions*, in: 46th AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit (2010) AIAA 2010-6890.
- 22.25. M.F. Michelon and A. Antonelli, *Computational study of configurational and vibrational contributions to the thermodynamics of substitutional alloys: The case of Ni_3Al* , *Phys. Rev. B* **81** (2010) 094204.
- 22.26. J.-H. Zhang, S.-Q. Wu, Y.-H. Wen and Z.-Z. Zhu, *An embedded atom method potential*

- for Ni,Al and their alloys, *J. Atom. Mol. Phys.* (2010) 588–594.
- 22.27. F. Luo, X.-R. Chen, L.-C. Cai, and Q. Wu, *Thermoelastic properties of nickel from molecular dynamic simulations*, *J. At. Mol. Sci.* **2** (2011) 10.
- 22.28. N.C. Barnard, S.G.R. Brown, F. Devredb, J.W. Bakker, B.E. Nieuwenhuys and N.J. Adkins, *A quantitative investigation of the structure of Raney-Ni catalyst material using both computer simulation and experimental measurements*, *J. Catal.* **281** (2011) 300.
- 22.29. H. Fu, X.-F. Li, W.-F. Liu, Y. Ma, T. Gao and X. Hong, *Electronic and dynamical properties of NiAl studied from first principles*, *Intermet.* **19** (2011) 1959.
- 22.30. J. Yu, J. Chen, Z. Hong and J. Feng, *Molecular dynamic simulations on the process of Ag-Al₂O₃ powder*, *Acta Materiae Compositae Sinica* **28** (2011) 150.
- 22.31. B. Łabno, “*Computer simulations of stability of the metallic atomic clusters in quasicrystals and intermetallic alloys*”, PhD Thesis, Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie, Kraków, 2011.
- 22.32. Y.-H. Deng, *Atomistic simulation of Mg₃MNi₂ (M=Al, Ti) alloy on crystal structure and electronic properties*, *J. At. Mol. Phys.* **28** (2011) 737.
- 22.33. A. Mashreghi, *Determining the volume thermal expansion coefficient of TiO₂ nanoparticle by molecular dynamics simulation*, *Comp. Mater. Sci.* **62** (2012) 60.
- 22.34. R.E. Voskoboinikov, *Effective γ -Surfaces in {111} Plane in FCC Ni and L₁₂ Ni₃Al Intermetallic Compound*, *Phys. Met. Metallogr.* **114** (2013) 545.
- 22.35. H. Fu, Z. Hou, J. Fu and Y. Ma, *Elastic anisotropy and phonon focusing in NiAl: Atomic study*, *Intermetallics* **42** (2013) 156.
- 22.36. D.S. Sundaram, “*Multi-scale modeling of thermochemical behavior of nano-energetic materials*”, PhD thesis, Georgia Institute of Technology, 2013.
- 22.37. A.I. Popoola, “*Computational study of noble metal alloys*”, PhD thesis, University of the Witwatersrand, Johannesburg, South Africa (2013).
- 22.38. D.S. Sundaram, P. Puri and V. Yang, *Thermochemical behavior of nano-sized aluminum-coated nickel particles*, *J. Nanopart. Res.* **16** (2014) 2392.
- 22.39. Y. Luo, Y. Cang and D. Chen, *Insights into Elastic and Thermodynamics Properties of Binary Intermetallics in Ni-Al Alloys under Extreme Condition: Full-Electronic Quasi-Harmonic Study*, *Chin. J. Chem. Phys.* **27** (2014) 399.
- 22.40. N.S. Kanhe, A.K. Tak, A.B. Nawale, S.A. Raut, S.V. Bhoraskar, A.K. Das and V.L. Mathe, *Understanding the crystalline phase formation in Fe-Ni and Al-Ni binary alloy-nanoparticles produced by thermal plasma assisted gas phase condensation method*, *Mat. Des.* **112** (2016) 495.
- 22.41. C.-D. Wu, T.-H. Fang, M.-H. Lin and J.-K. Su., *Mechanics and Pattern Transfer of Imprinted NiAl Amorphous Films Investigated Using Atomistic Simulation*, *Curr. Nanosci.* **13** (2017) 215.
- 22.42. S.Z. Chavoshi and S. Xu, *Nanoindentation/scratching at finite temperatures: Insights from atomistic-based modeling*, *Prog. Mater. Sci.* **100** (2019) 1.
- 22.43. X. Wang, W. Xiao, L. Wang, J. Shi, L. Sun, J. Cui and J. Wang, *Investigation on mechanical behavior of multilayer graphene reinforced aluminum composites*, *Physica E* **123** (2020) 114172.

- 22.44. G. Song, S. Zhao, S. Khan, J. Chen and M. Yao, *Microscale Bonding Mechanism of Mg Alloy and Steel Welded Joint with Nanoscale Al-Based Intermetallic Compound Interface Layers*, *Materialstoday Commun.* **26** (2021) 101924.
- 22.45. X. Wang, W. Xiao, J. Wang, L. Sun, J. Shi, H. Guo, Y. Liu, L. Wang, Enhanced interfacial strength of graphene reinforced aluminum composites via X (Cu, Ni, Ti)-coating: Molecular-dynamics insights, *Adv. Powder Technol.* **32** (2021) 2585.
- 22.46. O. Bindech, C. Goyhenex and É. Gaudry, *A tight-binding atomistic approach for point defects and surfaces applied to the o-Al₁₃Co₄ quasicrystalline approximant*, *Comput. Mater. Sci.* **200** (2021) 110826.
- 22.47. Р.Е. Воскобойников, Расчет Энергии Дефектов Упаковки В Жаропрочных Никелевых Сплавах, in: Всероссийский научно-исследовательский институт авиационных материалов Национального исследовательского центра “Курчатовский институт,” 2021: pp. 80.
- 22.48. S. Zhao, G. Song, J. Chen, M. Yao and L. Liu, *Adsorption behavior and mechanism of multiple Mg atoms on the surface of AlNi compound at Mg alloy/steel interface*, *Curr. Appl. Phys.* **33** (2022) 51.
- 22.49. H. Si, Q. Zhou, S. Zhou, J. Zhang, W. Liu, G. Gao, Z. Wang, P. Hou, Y. Qu, G. Li, Effect of interfacial stability on microstructure and properties of carbon fiber reinforced aluminum matrix composites, *Surfaces and Interfaces* **38** (2023) 102816. doi: [10.1016/j.surfin.2023.102816](https://doi.org/10.1016/j.surfin.2023.102816)
23. H. Chamati and N. S. Tonchev, *Critical behavior of systems with long-range interaction in restricted geometry*, *Mod. Phys. Lett. B* **17** (2003) 1187–1205.
- 23.1. D.M. Danchev, “*Статистическо-механичен ефект на Казимир*”, DSc Thesis, IMBM-BAS 2005.
- 23.2. S. Curilef, L.A. del Pino and P. Orellana, *Ferromagnetism in one dimension: Critical temperature*, *Phys. Rev. B* **72**, 224410 (2005)
- 23.3. А.А. Игнатъев, “*Кинетика фотопроцессов в системах с ограниченной геометрией, низкоразмерных структурах и фракталах*”, диссертации на соискание учёной степени кандидата физико-математических наук, Оренбургский государственный университет, Оренбург, 2006.
- 23.4. E.S. Pisanova, *On the role of the quantum fluctuations in a model of an anharmonic crystal*, *J. Optoelectron. Adv. Mater.* **9** (2007) 144–147.
- 23.5. Y. Chen, *The aging behavior of the random n-vector model with long-range interaction*, *Mod. Phys. Lett. B* **21** (2007) 1555–1568.
- 23.6. L.A. del Pino, P. Troncoso and S. Curilef, *Thermodynamics from a scaling Hamiltonian*, *Phys. Rev. B* **76** (2007) 172402.
- 23.7. L.A. del Pino, P. Troncoso and S. Curilef, *Critical temperature of a chain of long range interacting ferromagnets*, *J. Phys.: Conf. Ser.* **134** (2008) 012030.
- 23.8. A. Varghese, S. Vemparala and R. Rajesh, *Ensemble equivalence for counterion condensation on a two-dimensional charged disk*, *Phys. Rev. E* **85** (2012) 011119.
- 23.9. A. Mendoza-Coto, R. Díaz-Méndez, *Asymptotic dynamics of a frustrated model with spherical constraint*, *J. Magn. Magn. Mater.* **345** (2013) 111.

- 23.10. E. S. Pisanova and S. I. Ivanov, *Non-universal critical properties of the ferromagnetic mean spherical model with long-range interaction*, Bul. Chem. Commun. **47**, SI B (2015) 269.
- 23.11. B. Atenas and S. Curilef, *Novel Dynamics and Thermodynamics in systems with long range interactions*, arXiv:1508.04658 [cond-mat.stat-mech] (2015).
- 23.12. E.S. Loscar and C.M. Horowitz, *Size effects in finite systems with long-range interactions*, Phys. Rev. E **97** (2018) 032103.
- 23.13. F. Cescatti, M. Ibáñez-Berganza, A. Vezzani and R. Burioni, *Analysis of the low-temperature phase in the two-dimensional long-range diluted XY model*, Phys. Rev. B **100** (2019) 054203.
24. H. Chamati, A. Djankova and N. S. Tonchev, *Black-body radiation in Tsallis statistics*, Preprint IC/2004/26, ICTP, Trieste, Italy, 2004; (12 pp); cond-mat/0311234.
- 24.1. M.J. Andrade and M.A. Viscarra, *Study of the photonic correlation found in the radiant cavity using non extensive statistical mechanics*, Revista Boliviana de Física **15** (2009) 14.
- 24.2. C. A. Bertulani, J. Fuqua, M.S. Hussein, *Big Bang nucleosynthesis with a non-Maxwellian distribution*, Astrophys. J. **767** (2013) 67.
- 24.3. J. Fuqua, *Implications of non-maxwellian distributions on big bang nucleosynthesis*, MSc thesis, Texas A&M University-Commerce, 2013.
25. H. Chamati and D. M. Dantchev, *Casimir force, excess free energy and \mathcal{C} -functions in $O(n)$ systems with long-range interaction in the $n \rightarrow \infty$ limit*, Preprint IC/2004/32, ICTP, Trieste, Italy, 2004; (29 pages)
26. H. Chamati, M. S. Stoycheva and G. A. Evangelakis, *Immersed nano-sized Al dispersoids in an Al matrix: effects on the structural and mechanical properties by molecular dynamics simulations*, J. Phys.: Condens. Matter **16** (2004) 5031–5042.
- 26.1. I.A. Ovid'ko and A.G. Sheinerman, *Nanoparticles as dislocation sources in nanocomposites*, J. Phys.: Condens. Matter **18** (2006) L225–L232.
- 26.2. Z. Zhang and D.L. Chen, *Contribution of Orowan strengthening effect in particulate-reinforced metal matrix nanocomposites*, Mater. Sci. Eng. A, **483–484** (2008) 148–152.
- 26.3. Н.В. Тиховская, “Исследование плотности состояний наночастиц алюминия”, диссертации на соискание учёной степени кандидата физико-математических наук, “Омский государственный университет им. Ф.М. Достоевского”, 2008.
27. H. Chamati and N. I. Papanicolaou, *Second-moment interatomic potential for gold and its application to molecular-dynamics simulations*, J. Phys.: Condens. Matter **16** (2004) 8399–8407.
- 27.1. H. Bulou and C. Massobrio, *Mechanisms of exchange diffusion on fcc(111) transition metal surfaces*, Phys. Rev. B **72** (2005) 205427.
- 27.2. P. Pyykkö, *Theoretical chemistry of gold. II*, Inorganica Chimica Acta, (2005) 4113.
- 27.3. L. Rinçon, *On the structure of the Au₃₈ cluster*, International Conference on Nanoscience, Choroni (Venezuela) 07–11 May 2006.
url: URL:http://icon2006.phantomsnet.net/files/ICON06_O_RinconLuis.pdf
- 27.4. F. Bottin and G. Zerah, *Formation enthalpies of monovacancies in aluminum and gold under the condition of intense laser irradiation*, Phys. Rev. B **75** (2007) 174114.

- 27.5. L.V. Zherenkova, P.V. Komarov, P.G. Khalatur, *Simulation of the metallization of a fragment of a deoxyribonucleic acid molecule with gold nanoparticles*, Colloid Journal **69** (2007) 706–717
- 27.6. P.V. Komarov, L.V. Zherenkova and P.G. Khalatur, *Computer simulation of the assembly of gold nanoparticles on DNA fragments via electrostatic interaction*, J. Chem. Phys. **128** (2008) 124909.
- 27.7. H. Bulou and C. Massobrio, *New Atomic Mechanism of Preferential Nucleation on the Herringbone Reconstruction of Au(111)*, J. Phys. Chem. C **112** (2008) 8734.
- 27.8. T. T. Järvi, A. Kuronen, M. Hakala, K. Nordlund, A. C. T. van Duin, W. A. Goddard and T. Jacob, *Development of a ReaxFF description for gold*, Eur. Phys. J. B **66** (2008) 75.
- 27.9. Д.Н. Соколов, П.В. Комаров, Н.Ю. Сдобняков, *О плавлении и кристаллизации нанокластеров золота*, Физико-химические аспекты изучения кластеров, наноструктур и наноматериалов: межвуз. сб. науч. тр. – под общей редакцией В.М. Самсонова, Н.Ю. Сдобнякова. – Тверь: Твер. гос. ун-т, 2009. Вып. 1. С. 106-116.
- 27.10. Д.Н. Соколов, П.В. Комаров, Н.Ю. Сдобняков и В. М. Самсонов, *Исследование термодинамических характеристик нанокластеров металлов с использованием многочастичных потенциалов*, Фазовые переходы, упорядоченные состояния и новые материалы, (2009) 9.
- 27.11. J.A. Keith, D. Fantauzzi, T. Jacob and A.C.T. van Duin, *Reactive forcefield for simulating gold surfaces and nanoparticles*, Phys. Rev. B **81** (2010) 235404.
- 27.12. J. M. Cabrera-Trujillo, J.M. Montejano-Carrizales, J.L. Rodriguez-Loopez, W. Zhang, J.J. Velazquez-Salazar, M. Jose-Yacamán, *Nucleation and Growth of Stellated Gold Clusters: Experimental Synthesis and Theoretical Study*, J. Phys. Chem. C **114** (2010) 21051.
- 27.13. N. Yu. Sdobnyakov, P. V. Komarov, D. N. Sokolov and V. M. Samsonov, *Study of the thermodynamic characteristics of gold nanoclusters using a Gupta many-body potential*, Phys. Metals Metallogr. **111** (2011) 15.
- 27.14. M.-Y. Ng and Y.-C. Chang, *Laser-induced breathing modes in metallic nanoparticles: A symmetric molecular dynamics study*, J. Chem. Phys. **134** (2011) 094116.
- 27.15. P. V. Komarov and L. V. Zherenkova, *Formation of metal coating on deoxyribonucleic acid molecule*, Colloid Journal **73** (2011) 216–223.
- 27.16. X.-S. Yan, P. Lin, X. Qi and L. Yang, *Finnis–Sinclair potentials for fcc Au–Pd and Ag–Pt alloys*, Int. J. Mat. Res. **102** (2011) 381.
- 27.17. Д.Н. Соколов, Н.Ю. Сдобняков, П.В. Комаров, *О размерной зависимости удельной полной поверхностной энергии наночастиц металлов*. Мониторинг. Наука и технологии **3** (2011) 91.
- 27.18. Д.Н. Соколов, Н.Ю. Сдобняков, П.В. Комаров, В.М. Самсонов и И.В. Гринев, *О размерной зависимости удельной полной поверхностной энергии наночастиц металлов*, Фазовые переходы, упорядоченные состояния и новые материалы, (2012) 21-25.
- 27.19. Д.Н. Соколов, Н.Ю. Сдобняков, П.В. Комаров и В.М. Самсонов, *О размерной зависимости теплоемкости наночастиц металлов*, Фазовые переходы, упорядо-

- ченые состояния и новые материалы, (2012) 26-28.
- 27.20. N.Yu. Sdobnyakov, D.N. Sokolov, V.M. Samsonov, P.V. Komarov, Russian Metallurgy (Metally), *Gupta multiparticle potential study of the hysteresis of the melting and solidification of gold nanoclusters*, (2012) 209-214.
- 27.21. M. Backman, N. Juslin and K. Nordlund, *Bond order potential for gold*, Eur. Phys. J B **85** (2012) 317 (5 pages).
- 27.22. M.A. Karolewski, R.G. Cavell, R.A. Gordon, C.J. Glover, M. Cheah and M.C. Ridgway, *Predicting XAFS scattering path cumulants and XAFS spectra for metals (Cu, Ni, Fe, Ti, Au) using molecular dynamics simulations*, J. Synchrotron Rad. **20** (2013) 555.
- 27.23. R. Cortes-Huerta, J. Goniakowski and C. Noguera, *An efficient many-body potential for the interaction of transition and noble metal nano-objects with an environment*, J. Chem. Phys. **138** (2013) 244706.
- 27.24. А.Ю. Колосов, Н.Ю. Сдобняков, П.В. Комаров, Н.В. Новожилов, В.А. Хашин и Д.Н. Соколов, *Моделирование процесса коалесценции наночастиц золота методом Монте-Карло*, Нанотехника **2** (2013) 65.
- 27.25. L. Mokhtari, R. Maizi and S.E. Abaidia, *Molecular dynamics simulations of crystallization and glass formation in pure and binary liquid metals: Ni and Ni-Zr*, Int. J. Mater. Eng. Technol. **10** (2013) 97.
- 27.26. П.В. Комаров, “Многомасштабное моделирование нанодисперсных полимерных систем”, диссертация на соискание ученой степени доктора физико-математических наук, Тверской государственный университет, 2014.
- 27.27. R. Cortes-Huerta, J. Goniakowski and C. Noguera, *Role of Environment on the Stability of Anisotropic Gold Particles*, Phys. Chem. Chem. Phys. **17** (2015) 6305.
- 27.28. L. Mokhtari and S.-E. Abaidia, *Structure properties of Ni-Zr alloys at the rapid cooling rate using tight-binding potential*, Advances and Applications in Fluid Mechanics **18** (2015) 67.
- 27.29. B. Fleury, R. Cortes-Huerta, O. Taché, F. Testard, N. Menguy and O. Spalla, *Gold Nanoparticle Internal Structure and Symmetry Probed by Unified Small-Angle X-ray Scattering and X-ray Diffraction Coupled with Molecular Dynamics Analysis*, Nano Lett. **15** (2015) 6088. (Supp. Materials).
- 27.30. F. Calvo, N. Combe, J. Morillo and M. Benoit, *Modeling Iron–Gold Nanoparticles Using a Dedicated Semi-Empirical Potential: Application to the Stability of Core–Shell Structures*, J. Phys. Chem. C **121** (2017) 4680.
- 27.31. N.T. Dung and N.C. Cuong, *Some Factors Affected on Structure, Mechanical of Ni Bulk*, Adv. Mater. Phys., **8** (2018) 84337.
- 27.32. Н.Ю. Сдобняков, Д.Н. Соколов, *Изучение термодинамических и структурных характеристик наночастиц металлов в процессах плавления и кристаллизации: теория и компьютерное моделирование*, монография. – Тверь: Тверской государственный университет 2018. ISBN 978-5-7609-1323-4.
- 27.33. N. Sdobnyakov, A. Khort, V. Myasnichenko, K. Podbolotov, E. Romanovskaia, A. Kolosov, D. Sokolov and V. Romanovski, *Solution combustion synthesis and Monte Carlo simulation of the formation of CuNi integrated nanoparticles*, Comput. Mater. Sci. **184**

- (2020) 109936.
- 27.34. S. Combettes, J. Lam, P. Benzo, A. Ponchet, M.-J. Casanove, F. Calvo and M. Benoit, *How interface properties control the equilibrium shape of core-shell Fe-Au and Fe-Ag nanoparticles*, *Nanoscale* **12** (2020) 18079.
- 27.35. S. Combettes, *Croissance et morphologie de nanoparticules coeur-coquille Fe@Au facettées : une étude expérimentale et théorique*, PhD Thesis, Université Toulouse 3 – Paul Sabatier, France, 2020.
- 27.36. J. Johny, O. Prymak, M. Kamp, F. Calvo, S.-H. Kim, A. Tymoczko, A. El-Zoka, C. Rehbock, U. Schürmann, B. Gault, L. Kienle, S. Barcikowski, *Multidimensional thermally-induced transformation of nest-structured complex Au-Fe nanoalloys towards equilibrium*, *Nano Research* **15** (2022) 581.
- 27.37. A. France-Lanord, S. Menon and J. Lam, *Harvesting nucleating structures in nanoparticle crystallization: The example of gold, silver and iron*, eprint arXiv:2401.03969v1 [cond-mat.stat-mech] (2024) doi: [10.48550/arXiv.2401.03969](https://doi.org/10.48550/arXiv.2401.03969)
28. H. Chamati and D. M. Dantchev, *Critical Casimir forces for $O(n)$ systems with long-range interaction in the spherical limit*, *Phys. Rev. E* **70** (2004) 066106 (13 pages).
- 28.1. N.S. Tonchev, *Finite-Size Scaling and Long-Range Interactions*, *Phys. Part. Nuclei* **36** (Suppl. 1) (2005) S82.
- 28.2. S. Curilef, L.A. del Pino and P. Orellana, *Ferromagnetism in one dimension: Critical temperature*, *Phys. Rev. B* **72**, 224410 (2005)
- 28.3. N.S. Tonchev, *An introduction to the Casimir effect in critical phenomena*, *J. Optoelectron. Adv. Mater.* **9** (2007) 11–17.
- 28.4. L.A. del Pino, P. Troncoso and P. Orellana, *Thermodynamics from a scaling Hamiltonian*, *Phys. Rev. B* **76** (2007) 172402.
- 28.5. L.A. del Pino, P. Troncoso and S. Curilef, *Critical temperature of a chain of long range interacting ferromagnets*, *J. Phys.: Conf. Ser.* **134** (2008) 012030
- 28.6. J.-N. Aqua and M.E. Fisher, *Criticality in multicomponent spherical models: Results and cautions*, *Phys. Rev. E* **79** (2009) 011118.
- 28.7. F. Parisen Toldin and S. Dietrich, *Critical Casimir forces and adsorption profiles in the presence of a chemically structured substrate*, *J. Stat. Mech.* (2010) P11003.
- 28.8. M. Napiórkowski, P. Jakubczyk, K. Nowak, *The imperfect Bose gas in d dimensions: critical behavior and Casimir forces*, *J. Stat. Mech.* (2013) P06015.
- 28.9. M. Hasenbusch, *Thermodynamic Casimir Effect in Films: the Exchange Cluster Algorithm*, *Phys. Rev. E* **91** (2015) 022110.
- 28.10. E. S. Pisanova and S. I. Ivanov, *Non-universal critical properties of the ferromagnetic mean spherical model with long-range interaction*, *Bul. Chem. Commun.* **47**, SI B (2015) 269.
- 28.11. F. Parisen Toldin, M. Tröndle and S. Dietrich, *Line contribution to the critical Casimir force between a homogeneous and a chemically stepped surface*, *J. Phys.: Condens. Matter* **27** (2015) 214010.
- 28.12. B. Atenas and S. Curilef, *Novel Dynamics and Thermodynamics in systems with long range interactions*, arXiv:1508.04658 [cond-mat.stat-mech] (2015).

- 28.13. G.S. Valchev, “*Fluctuation-Induced Interactions in Finite-Size Fluid Systems*”, PhD Thesis, IMBM–BAS 2015.
- 28.14. A. Gambassi and S. Dietrich, *Critical Casimir forces in soft matter*, *Soft Matter* **20** (2024) 3212. doi: [10.1039/D3SM01408H](https://doi.org/10.1039/D3SM01408H)
29. H. Chamati and S. Romano, *Classical Heisenberg lattice–gas model: Thermodynamics and phase diagrams*, *Phys. Rev. B* **72** (2005) 064424 (10 pages).
- 29.1. B. S. Dillon, S. Chiesa and R. T. Scalettar, *Monte Carlo study of the two-dimensional vector Blume–Capel model*, *Phys. Rev. B* **82** (2010) 184421.
30. H. Chamati and S. Romano, *Two–dimensional lattice gas models with extremely anisotropic spin interactions*, *Phys. Rev. B* **72** (2005) 064444 (10 pages).
- 30.1. B. S. Dillon, S. Chiesa and R. T. Scalettar, *Monte Carlo study of the two-dimensional vector Blume–Capel model*, *Phys. Rev. B* **82** (2010) 184421.
- 30.2. S.A. Cannas and D.A. Stariolo, *Three-state model with competing antiferromagnetic and pairing interactions*, *Phys. Rev. E* **99** (2019) 042137
31. H. Chamati, S. Romano, L. Mól and A. R. Pereira, *Three–dimensional generalized xy models: A Monte Carlo study*, *Europhys. Lett.* **72** (2005) 62–68.
- 31.1. Y.–Z. Sun, J.–C. Liang, S.–L. Xu and L. Yi, *Berezinskii–Kosterlitz–Thouless phase transition of 2D dilute generalized XY model*, *Physica A* **389** (2010) 1391.
- 31.2. Y. Komura and Y. Okabe, *Phase transition of two-dimensional generalized XY model*, *J. Phys. A: Math. Theor.* **44** (2011) 015002.
- 31.3. Y.–Z. Sun, Q. Wu, X.–L. Yang, Y. Zhou, L.–Y. Zhu, Q. Chen, Q. An, *Numerical Studies of Vortices and Helicity Modulus in the Two-Dimensional Generalized XY Model*, *Front. Phys.* **10** (2022) 851322.
32. H. Chamati and N. S. Tonchev, *Generalized Mittag–Leffler functions in the theory of finite–size scaling for systems with strong anisotropy and/or long–range interaction*, *J. Phys. A: Math. Gen.* **39** (2006) 469–478.
- 32.1. E.S. Pisanova, *On the role of the quantum fluctuations in a model of an anharmonic crystal*, *J. Optoelectron. Adv. Mater.* **9** (2007) 144–147.
- 32.2. H.J. Haubold, A.M. Mathai and R.K. Saxena, *Solutions of fractional reaction-diffusion equations in terms of the H–function*, *Bull. Astr. Soc. India* **35** (2007) 681–689.
- 32.3. R.F. Camargo A.O. Chiacchio and E.C. de Oliveira, *Differentiation to fractional orders and the fractional telegraph equation*, *J. Math. Phys.* **49** (2008) 033505.
- 32.4. R.F. Camargo A.O. Chiacchio and E.C. de Oliveira, “*Funções de Mittag–Leffler: Teorema de Adição e Aplicações*”, 67 Seminário Brasileiro de Análise, 2008, IME – USP – São Paulo.
url: <http://www.sba.mat.br/files/6704.pdf>
- 32.5. R. Figueiredo Camargo, A.O. Chiacchio and E. Capelas de Oliveira, “*Teorema de Adição para as Funções de Mittag–Leffler*”, *Tend. Mat. Apl. Comput.*, 10 (2009) 1–9.
- 32.6. R.F. Camargo, “*Fractional Calculus and Applications*”. PhD Thesis, Campinas: UNICAMP, Brasil, 2009.
- 32.7. A.M. Mathai, R.K. Saxena, H.J. Haubold, *The H-Function Theory and Applications*, Springer, Berlin, 2009.

- 32.8. H.J. Haubold, A.M. Mathai and R.K. Saxena, *Mittag-Leffler functions and their applications*, arXiv:0909.0230v2 [math.CA] (2009).
- 32.9. R. Figueiredo Camargo, E. Capelas de Oliveira and J. Vaz, Jr., *On anomalous diffusion and the fractional generalized Langevin equation for a harmonic oscillator*, J. Math. Phys. **50** (2009) 123518.
- 32.10. A. Al Mallahi, *Coarse graining temporel des marches aléatoires en temps continus*, Physique, Memoire, Université libre de Bruxelles, Belgium, 2009.
- 32.11. R.K. Saxena, A.M. Mathai and H.J. Haubold, in: *Proceedings of the Third Un/ESA/NASA Workshop on the International Heliophysical year 2007 and Basic Space Science*, Springer, Heidelberg 2010; page 53.
- 32.12. Y. Li and Y.Q. Chen, *Fractional order universal adaptive stabilizer for fractional order systems*; Proceedings of the ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC/CIE 2009 (August 30 – September 2, 2009, San Diego, California, USA); Volume **4** (Part A) (2010) 279–285.
- 32.13. L.F. James, *Lamperti Type Laws*, Ann. Appl. Probab. **20** (2010) 1303.
- 32.14. F. Mainardi, “*Fractional Calculus and Waves in Linear Viscoelasticity: An Introduction to Mathematical Models*”, (Imperial College, London, 2010).
- 32.15. R.K. Saxena, A.M. Mathai and H.J. Haubold, *Solutions of certain fractional kinetic equations and a fractional diffusion equation*, J. Math. Phys. **51** (2010) 103506.
- 32.16. V.B.L. Chaurasia and J. Singh, *Application of Sumudu transform in fractional kinetic equations*, Gen. Math. Notes **2** (2011) 86.
- 32.17. V.B.L. Chaurasia and J. Singh, *Unified fractional reaction–diffusion equations with solutions*, Appl. Math. Sci. **5** (2011) 2989.
- 32.18. A. Stanislavsky and K. Weron, *Numerical scheme for calculating of the fractional two–power relaxation laws in time–domain of measurements*, Comput. Phys. Commun. **183** (2012) 320.
- 32.19. J. Singh, D. Kumar, and S. Rathore, *On the solutions of fractional reaction-diffusion equations*, Le Matematiche **68** (2013) 23–32.
- 32.20. S. Wald and M. Henkel, *Quantum phase transition in the spin-anisotropic quantum spherical model*, J. Stat. Mech. (2015) P07006.
- 32.21. D. Xue, “*Fractional-Order Control Systems. Fundamentals and Numerical Implementations*”, De Gruyter, Berlin, 2017.
- 32.22. R. Garra and R. Garrappa, *The Prabhakar or three parameter Mittag-Leffler function: theory and application*, Commun. Nonlinear Sci. Numer. Simul. **56** (2018) 314.
- 32.23. S. Eshaghi, R.K. Ghaziani and A. Ansari, *Stability and chaos control of regularized Prabhakar fractional dynamical systems without and with delay*, Math. Methods Appl. Sci. **42** (2019) 2302.
- 32.24. M.H. Derakhshan and A. Ansari, *Numerical approximation to Prabhakar fractional Sturm–Liouville problem*, Comput. Appl. Math. **38** (2019) 71.
- 32.25. A. Giusti, I. Colombaro, R. Garra, R. Garrappa, F. Polito, M. Papolizio and F. Mainardi, *A practical guide to Prabhakar fractional calculus*, Fract. Calc. Appl. Anal. **23** (2020) 9.

- 32.26. D. Xue, “*Differential Equation Solutions with MATLAB®*”, de Gruyter, Berlin, 2020.
- 32.27. R. Gorenflo, A.A. Kilbas, F. Mainardi, S. Rogosin, “*Mittag-Leffler Functions, Related Topics and Applications*”, Springer Berlin Heidelberg, Berlin, Heidelberg, 2020.
- 32.28. J. Gajda and L. Beghin, *Prabhakar Lévy processes*, Stat. Probab. Lett. **178** (2021) 109162.
- 32.29. H. Fazli, H. Sun, J.J. Nieto, Fréchet-Kolmogorov compactness of Prabhakar integral operator, Rev. Real Acad. Cienc. Exactas Físicas Nat. Ser. Matemáticas. **115** (2021) 165.
- 32.30. B. Zhang and X. Shu, “*Introduction to Fractional Calculus. In: Fractional-Order Electrical Circuit Theory*, CPSS Power Electronics Series (Springer, Singapore, 2022).
- 32.31. Y.-M. Chu, M. Inc, M.S. Hashemi and S. Eshaghi, *Analytical treatment of regularized Prabhakar fractional differential equations by invariant subspaces*, Comp. Appl. Math. **41** (2022) 271.
- 32.32. F. Mainardi, “*Fractional Calculus and Waves in Linear Viscoelasticity: An Introduction to Mathematical Models*”, (Imperial College, London, 2022).
- 32.33. S. Eshaghi and M.S. Tavazoei, *Finiteness conditions for performance indices in generalized fractional-order systems defined based on the regularized Prabhakar derivative*, Commun. Nonlinear Sci. Numer. Simul. **117** (2023) 106979.
doi: [10.1016/j.cnsns.2022.106979](https://doi.org/10.1016/j.cnsns.2022.106979)
- 32.34. V.P. Dubey, J. Singh, S. Dubey, D. Kumar, *Some Integral Transform Results for Hilfer–Prabhakar Fractional Derivative and Analysis of Free-Electron Laser Equation*, Iran. J. Sci. **47** (2023) 1333. doi: [0.1007/s40995-023-01493-9](https://doi.org/10.1007/s40995-023-01493-9)
- 32.35. D. Xue and L. Bai, *Fractional Calculus : High-Precision Algorithms and Numerical Implementations*, Springer, Singapore, 2024. doi: [10.1007/978-981-99-2070-9](https://doi.org/10.1007/978-981-99-2070-9)
33. H. Chamati, A. Djankova and N. Tonchev, *On the application of nonextensive statistical mechanics to the black–body radiation*, Physica A **360** (2006) 297–303.
- 33.1. H. Babacan, O. Kayacan and R. Atici, *Generalized statistical mechanics for nucleus*, Mathematical and Computational Applications, **13** (2008) 81.
- 33.2. Q.J. Zeng, Z. Cheng and J.H. Yuan, *Generalization of the radiation laws of a Kerr nonlinear blackbody*, Eur. Phys. J. D **66** (2012) 50.
- 33.3. Q. Zeng, J. Ge, P. Qin and Y. Xu, *A Revisit to the Generalized Radiation Laws of a Kerr Nonlinear Blackbody*, I. J. Theor. Phys. **52** (2013) 897.
- 33.4. K. Ourabah and M. Tribeche, *Planck radiation law and Einstein coefficients reexamined in Kaniadakis κ statistics*, Phys. Rev. E **89** (2014) 062130.
- 33.5. Y.-S. Luo, Q.-J. Zeng and J. Ge, *Thermal Radiation Laws of a q-Deformed Boson System*, Chin. J. Phys. **52** (2014) 970.
- 33.6. I. Lourek and M. Tribeche, *Thermodynamic properties of the blackbody radiation: a Kaniadakis approach*, Phys. Lett. A **381** (2017) 452.
- 33.7. Q.J. Zeng, J. Ge, H. Luo, Y.S. Luo, *Thermal Radiation Laws of a q-deformed Boson System in m Dimensions*, Theor Phys **56** (2017) 2738.
- 33.8. S.M.A.T. Bafghi, M. Kamalvand, A. Morsali, M.R. Bozorgmehr, *Radial distribution function within the framework of the Tsallis statistical mechanics*, Physica A **506** (2018) 857.

- 33.9. A.V. Kolesnichenko, *Thermodynamics of the Bose gas and black radiation in non-extensive Tsallis statistics*, Solar System Research **54** (2020) 420.
- 33.10. A.V. Kolesnichenko, *Jeans instability of the protoplanetary circumstellar disk taking into account the magnetic field and radiation in the nonextensive Tsallis kinetics*, Solar System Research **55** (2021) 132.
- 33.11. J.R. Choi, *Analysis of the effects of nonextensivity for a generalized dissipative system in the $SU(1,1)$ coherent states*, Sci. Rep. **12** (2022) 1622.
34. L. Mól, A. R. Pereira, H. Chamati and S. Romano, *Monte Carlo study of 2D generalized XY-models*, Eur. Phys. J. B **50** (2006) 541–548.
- 34.1. O. Kapikranian, B. Berche, Y. Holovatch, *Interplay of topological and structural defects in the 2D XY model*, arXiv:0803.1938v1 [cond-mat.stat-mech] (2008).
- 34.2. Y.-Z. Sun, L. Yi and G.M. Wysin, *Berezinskii–Kosterlitz–Thouless phase transition for the dilute planar rotator model on a triangular lattice*, Phys. Rev. B **78** (2008) 155409.
- 34.3. Y.-Z. Sun, L. Yi and Y.-H. Gao, *Thermodynamic and critical properties of dilute XY magnets: Monte Carlo study*, Solid State Commun. **149** (2009) 1000.
- 34.4. R. Chaudhury and S.K. Paul, *Physical realization and possible identification of topological excitations in quantum Heisenberg anti-ferromagnet on a two dimensional lattice*, Eur. Phys. J. B **69** (2009) 491.
- 34.5. Y.-Z. Sun, J.-C. Liang, S.-L. Xu and L. Yi, *Berezinskii–Kosterlitz–Thouless phase transition of 2D dilute generalized XY model*, Physica A **389** (2010) 1391.
- 34.6. J.J. Alonso, *Phase transitions in systems of magnetic dipoles on a square lattice with quenched disorder*, J. Magn. Magn. Mater. **322** (2010) 1330.
- 34.7. S. Sinha, S.K. Roy, *Role of topological defects in the phase transition of a modified XY model: A Monte Carlo study*, Phys. Rev. E **81** (2010) 041120.
- 34.8. R. Chaudhury and S.K. Paul, *Physical realization of topological excitations in quantum Heisenberg ferromagnet on lattice*, Eur. Phys. J. B **76** (2010) 391.
- 34.9. B. S. Dillon, S. Chiesa and R. T. Scalettar, *Monte Carlo study of the two-dimensional vector Blume–Capel model*, Phys. Rev. B **82** (2010) 184421.
- 34.10. Y. Komura and Y. Okabe, *Phase transition of two-dimensional generalized XY model*, J. Phys. A: Math. Theor. **44** (2011) 015002.
- 34.11. Y. Komura and Y. Okabe, *Reply to the Comment on ‘Phase transition of a two-dimensional generalized XY model’*, J. Phys. A: Math. Theor. **44** (2011) 208002.
- 34.12. Y. Sun, Q. Wu, J. Li and Q. Chen, *Thermodynamic quantities and phase transition of a generalized XY model on triangular lattice*. IOP Conf. Series: Earth and Environmental Science **128** (2018) 012106.
- 34.13. P. Quiring, M. Klopotek and M. Oettel, *Nematic and gas-liquid transitions for sticky rods on square and cubic lattices*, Phys. Rev. E **100** (2019) 012707.
- 34.14. Y.-Z. Sun, Q. Wu, X.-L. Yang, Y. Zhou, L.-Y. Zhu, Q. Chen, Q. An, *Numerical Studies of Vortices and Helicity Modulus in the Two-Dimensional Generalized XY Model*, Front. Phys. **10** (2022) 851322.
35. H. Chamati and E. Korutcheva, *Relaxation time in confined disordered systems*, Preprint IC/2006/033, ICTP, Trieste, Italy, 2006; (11 pages).

36. H. Chamati and S. Romano, *Berezinskiĭ–Kosterlitz–Thouless transition in two-dimensional lattice gas models*, Phys. Rev. B **73** (2006) 184424 (6 pages).
- 36.1. O. Kapikranian, B. Berche and Yu. Holovatch, *Interplay of topological and structural defects in the two-dimensional XY model*, Phys. Lett. **372** (2008) 5716.
- 36.2. O. Kapikranian, “*Influence of disorder on the low temperature behaviour of two-dimensional spin models with continuous symmetry*”, Thèse de doctorat, l’Université Henri Poincaré, Nancy I, 2009.
- 36.3. Y.-Z. Sun, J.-C. Liang, S.-L. Xu and L. Yi, *Berezinskii–Kosterlitz–Thouless phase transition of 2D dilute generalized XY model*, Physica A **389** (2010) 1391.
- 36.4. O. Kapikranian and Y. Holovatch, *Spin vortices and vacancies: Interactions and pinning on a square lattice*, Phys. Rev. B **81** (2010) 134437.
- 36.5. B. S. Dillon, S. Chiesa and R. T. Scalettar, *Monte Carlo study of the two-dimensional vector Blume–Capel model*, Phys. Rev. B **82** (2010) 184421.
- 36.6. S.A. Cannas and D.A. Stariolo, *Three-state model with competing antiferromagnetic and pairing interactions*, Phys. Rev. E **99** (2019) 042137
- 36.7. F. Cescatti, M. Ibáñez-Berganza, A. Vezzani and R. Burioni, *Analysis of the low-temperature phase in the two-dimensional long-range diluted XY model*, Phys. Rev. B **100** (2019) 054203.
- 36.8. T. Bissinger and M. Fuchs, *The BKT Transition and its Dynamics in a Spin Fluid*, J. Chem. Phys. **158** (2023) 044902. doi: 10.1063/5.0129663
37. H. Chamati, N. Papanicolaou, Y. Mishin and D. Papaconstantopoulos, *Embedded-atom potential for Fe and its application to self-diffusion on Fe(100)*, Surf. Sci. **600** (2006) 1793–1803.
- 37.1. M. Müller, “*Atomistic Computer Simulations of FePt Nanoparticles: Thermodynamic and Kinetic Properties*” PhD Thesis, Technische Universität Darmstadt, Germany, 2007.
- 37.2. Y. Yun and W.W. Kim, *Ab initio total energy calculations for a brittle versus ductile behavior of α -Fe*, Radiat. Eff. Defect. S., **162** (2007) 367–372.
- 37.3. Y. Kubota, R. Matsumoto and N. Miyazaki, *Molecular dynamics analyses of crack growth behaviors in single crystalline fe by the use of hybrid potential method*, Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A, **73** (2007) 643–650.
- 37.4. M. Müller, P. Erhart and K. Albe, *Analytic bond-order potential for bcc and fcc iron – comparison with established embedded-atom method potentials*, J. Phys. Condens. Matter **19** 326220 (2007) (23 pages).
- 37.5. C. Engin, L. Sandoval and H.M. Urbassek, *Characterization of Fe potentials with respect to the stability of the bcc and fcc phase*, Modelling Simul. Mater. Sci. Eng. **16** (2008) 035005
- 37.6. W. Setyawan, “*Computational study of low-friction quasicrystalline coatings via simulations of thin film growth of hydrocarbons and rare gases*” PhD Thesis, Duke University, USA, 2008.
- 37.7. S.G. Elsharkawy and M.F. Shehadeh, *Modeling crystalline structure for metals using a three dimensional simulation code: Part I*, Proceedings of the 13 th Int. AMME Conference, 27-29 May, 2008, 209.

- 37.8. A. Olivier, *Étude des mécanismes de germination et de croissance d'oxydes sélectifs sur un acier ferritique*, PhD Thesis, Ecole Centrale Paris, France (2009).
- 37.9. V.V. Hoang and N. H. Cuong, *Local icosahedral order and thermodynamics of simulated amorphous Fe*, Physica B **404** (2009) 340.
- 37.10. A. Oila and S.J. Bull, *Atomistic simulation of Fe–C austenite*, Comput. Mater. Sci. **45** (2009) 235.
- 37.11. J. Yang, W. Hu and Y. Liu, *Diffusion dynamics of vacancy on Re(0 0 0 1), compared with adatom*, Physica B **404** (2009) 1546.
- 37.12. U. Sarkar and S. A. Blundell, *Structure and thermodynamics of Fe₅₅, Co₅₅, and Ni₅₅ clusters supported on a surface*, Phys. Rev. B **79** (2009) 125441.
- 37.13. S.M.H. Haghghat, G. Lucas and R. Schäublin, *State of a pressurized helium bubble in iron*, Eur. Phys. Lett. **85** (2009) 60008.
- 37.14. U.R. Kattner and C.E. Campbell, *Modelling of thermodynamics and diffusion in multicomponent systems*, Mater. Sci. and Technol. **25** (2009) 443.
- 37.15. A. Irastorza, A. Luque, J. Aldazabal, J.M. Martínez–Esnaola and J. Gil Sevillano, *Estudio atómico de la propagación de grietas en monocristales de Fe– α agrietados*, Anales de Mecánica de la Fractura **26** (2009) 388.
- 37.16. J. Yu, X. Lin, J. Wang, J. Chen and W. Huang, *First-principles study of the relaxation and energy of bcc-Fe, fcc-Fe and AISI-304 stainless steel surfaces*, Appl. Surf. Sci. **255** (2009) 9032.
- 37.17. P.A.T. Olsson, *Semi-empirical atomistic study of point defect properties in BCC transition metals*, Comput. Mater. Sci. **47** (2009) 135.
- 37.18. A. Ollivier, *Étude des mécanismes de germination et de croissance d'oxydes sélectifs sur un acier ferritique*, PhD Thesis, École Centrale Paris, France (2009).
- 37.19. L. Sandoval, H.M. Urbassek and P. Entel, *Solid–solid phase transitions and phonon softening in an embedded-atom method model for iron*, Phys. Rev. B **80** (2009) 214108.
- 37.20. I.L. Nagornykh, I.N. Burnyshev and V.V. Besogonov, *Investigation of deformed state of alpha-iron by the molecular dynamic method*, Khimicheskaya fizika i mezoskopiya **11** (2009) 297.
- 37.21. И.В. Неласов, *Диффузионные и термодинамические характеристики межзеренной области в нанокристаллической меди и эволюция структуры межфазной границы в композите медь–ниобий*, диссертации на соискание учёной степени кандидата физико–математических наук, Белгородский государственный университет, г. Белгород, Россия; 2009.
- 37.22. G. de Oliveira Cardozo and J. P. Rino, *Molecular Dynamics Calculations of InSb Thermal Conductivity*, Defect and Diffusion Forum **297–301** (2010) 1400–1407.
- 37.23. A. Grazyna and E. Gert, “*Surface Diffusion: Metals, Metal Atoms, and Clusters*”, Cambridge University Press, 2010.
- 37.24. C. Wang, A. Kohn, S.G. Wang, L.Y. Chang, S.-Y. Choi, A.I. Kirkland, A.K. Petford–Long and R.C.C. Ward, *Structural characterization of interfaces in epitaxial Fe/MgO/Fe magnetic tunnel junctions by transmission electron microscopy*, Phys. Rev. B **82** (2010) 024428.

- 37.25. C.Q. Wang, Y.X. Yang, Y.S. Zhang and Y. Jia, *A single vacancy diffusion near a Fe (110) surface: A molecular dynamics study*, Comput. Mater. Sci. **50** (2010) 291–294.
- 37.26. A. O. Oluwajobi and X. Chen, *The fundamentals of modelling abrasive machining using molecular dynamics*, Int. J. Abrasive Technology, **3** (2010) 354–381.
- 37.27. А.Г. Липницкий, *Термодинамика и компьютерное моделирование на атомном уровне металлических систем с наноразмерной структурой*, диссертации на соискание ученой степени доктора физико-математических наук, Белгород, 2010.
- 37.28. А. Cao, *Shape memory effects and pseudoelasticity in bcc metallic nanowires*, J. App. Phys. **108** (2010) 113531.
- 37.29. И.Л. Нагорных, И.Н. Бурнышев, „Влияние водорода на механические свойства кристаллов железа: молекулярно-динамические расчеты”, Сборник материалов 50 Международный симпозиум «Актуальные проблемы прочности» 27 сентября –1 октября 2010 года Витебск, Беларусь, Част 2, стр. 126.
- 37.30. И.Л. Нагорных, *Молекулярно–динамическое моделирование поведения системы железо– водород при деформировании*, диссертации на соискание учёной степени кандидата физико–математических наук, Российской академии наук Институте прикладной механики Уральского отделения РАН, Ижевск, Россия, (2011).
- 37.31. C. Wang, C. Tang, J. Su, Y. Zhang and Y. Jia, *Structural stabilities and diffusion of small Fe clusters on Fe (110) surface: a molecular dynamics study*, Appl. Surf. Sci. **257** (2011) 9329.
- 37.32. C. Wang, D. Chang, C. Tang, J. Su, Y. Zhang and Y. Jia, *Single adatom adsorption and diffusion on Fe surfaces*, Journal of Modern Physics **2** (2011) 1067.
- 37.33. G.P. Purja Pun, “*Atomistic Modeling of Diffusion and Phase Transformations in Metals and Alloys*”, PhD thesis, George Mason University, USA, 2011.
- 37.34. И. Л. Нагорных, И. Н. Бурнышев, В. В. Бесогонов, *О выборе потенциалов межатомного взаимодействия для системы Fe – H в приближении метода погруженного атома*, Вестник ИЖГТУ. 1 (2011) 114.
- 37.35. A. Oluwajobi, “*Nanomachining Technology Development*”, Doctoral thesis, University of Huddersfield, 2012.
- 37.36. I.L. Nagornykh and I.N. Burnyshev, *Molecular-dynamics researching decohesion effect of hydrogen on α -iron*, Khimicheskaya fizika i mezoskopiya **13** (2011) 82.
- 37.37. R. de Mendonça, “*Aplicação de espectroscopia de fotoelétrons ao estudo de processos de corrosão e oxidação de superfícies metálicas: Inconel 182, Fe/Cu(100) e U-Zr-Nb*”, Belo Horizonte (2011).
- 37.38. C. Wang, Z. Qin, Y. Zhang and Y. Jia, *A molecular dynamics simulation of self-diffusion on Fe surfaces*, Appl. Surf. Sci. **258** (2012) 4294.
- 37.39. T.P. Duy and V.V. Hoang, *Atomic mechanism of homogeneous melting of bcc Fe at the limit of superheating*, Physica B **407** (2012) 978.
- 37.40. A. Oluwajobi, *Molecular Dynamics Simulation of Nanoscale Machining*, in: L. Wang (Ed.), *Molecular Dynamics – Studies of Synthetic and Biological Macromolecules* (In-Tech, Rijeka, Croatia, 2012) pp. 391–418.
- 37.41. T. Lee, M.I. Baskes, S. Valone and J.D. Doll, *Atomistic modeling of thermodynamic*

- equilibrium and polymorphism of iron*, J. Phys.: Condens. Matter **24** (2012) 225404 (18pp).
- 37.42. J.-X. Xue, R.-G. Zhang, Y.-P. Liu, Y.-P. Liu, *The Alloying of Ti, C, N in Bulk α -Fe and Their Effects on Bond Characters*, Acta Phys. Sin. **61** (2012) 127101.
- 37.43. H.-Y. Hou, R.-S. Wang, J.-T. Wang, X.-B. Liu, G. Chen and P. Huang, *An analytic bond-order potential for the Fe-Cu system*, Modelling Simul. Mater. Sci. Eng. **20** (2012) 045016.
- 37.44. H.M. Urbassek and L. Sandoval, *Molecular dynamics modeling of martensitic transformations in steels*, in: E. Pereloma, D.V. Edmonds (Eds.) Phase Transformations in Steels, Vol 2 (Woodhead, UK, 2012) 433.
- 37.45. W. Gao, L. Kong and P. Hodgson, *Atomic interaction of functionalized carbon nanotube-based nanofluids with a heating surface and its effect on heat transfer*, Int. J. Heat. Mass. Tran. **55** (2012) 5007.
- 37.46. Z.H. Wang, H. Chen, L.Y. Zhang, *Atomistic simulation of self-diffusion and interfacial diffusion of liquid lead*, J Non-Cryst. Solids **358** (2012) 2906.
- 37.47. Ch. H. Ersland, “*Atomistic modeling of failure in iron*”, PhD thesis, Trondheim, 2012.
- 37.48. S. Chen, “*Influence of ferrite grain orientation on selective oxidation of steel*”, PhD thesis, Ecole Centrale Paris, 2012.
- 37.49. В. Е. Зализняк, *Межатомное взаимодействие в металлах имеющих объёмно-центрированную кубическую решётку*, Наносистемы: физика, химия, математика **3** (2012) 64.
- 37.50. N.I. Medvedeva, A.S. Murthy, V.L. Richards, D.C. Van Aken, J. E. Medvedeva, *First principle study of cobalt impurity in bcc Fe with Cu precipitates*, J. Mater. Sci. **48** (2013) 1377.
- 37.51. X. Dai, J. Yang and W. Hu, *Surface self-diffusion of Re adatom on the Re cluster with hexahedral structure*, Physica B **414** (2013) 97.
- 37.52. M.E. Ford, *Atomistic modelling of iron with magnetic analytic Bond-Order Potentials*, PhD Thesis, University of Oxford, 2013.
- 37.53. F. Ma K.-W. Xu and P.K. Chu, *Surface-induced structural transformation in nanowires*, Mater. Sci. Eng. R Reports **74** (2013) 173.
- 37.54. D.K. Belashchenko, *Computer simulation of liquid metals*, Phys. Usp. **56** (2013) 1176;
- 37.55. Mo. Yuasa, M. Hayashi, M. Mabuchi and Y. Chino, *Atomic simulations of (10 $\bar{1}$ 2), (10 $\bar{1}$ 1) twinning and (10 $\bar{1}$ 2) detwinning in magnesium*, J. Phys.: Condens. Matter **26** (2014) 015003 (10pp).
- 37.56. L. Dezerald, L. Ventelon, E. Clouet, C. Denoual, D. Rodney, and F. Willaime, *Ab initio modeling of the two-dimensional energy landscape of screw dislocations in bcc transition metals*, Phys. Rev. B **89** (2014) 024104.
- 37.57. V. Hizhnyakov, M. Haas, A. Shelkan and M. Klopov, *Theory and MD simulations of intrinsic localized modes and defect formation in solids*, Phys. Scr. **89** (2014) 044003.
- 37.58. J.J. Möller and E. Bitzek, *Comparative study of embedded atom potentials for atomistic simulations of fracture in α -iron*, Modelling Simul. Mater. Sci. Eng. **22** (2014) 045002.
- 37.59. Y. Ma and S. H. Garofalini, *Interplay between the ionic and electronic transport and its*

- effects on the reaction pattern during the electrochemical conversion in an FeF₂ nanoparticle*, Phys. Chem. Chem. Phys. **16** (2014) 11690.
- 37.60. М.М. Айщ, “Исследование особенностей деформации и разрушения нановолокон металлов и сплавов в зависимости от их формы и размеров”, диссертация на соискание ученой степени кандидата физико-математических наук, Алтайский государственный технический университет им. И.И. Ползунова, 2014.
- 37.61. Z. Wang, K. Zhao, W. Chen, X. Chen and L. Zhang, *Atomistic modeling of diffusion coefficient in fusion reactor first wall material tungsten*, Appl. Therm. Eng. **73** (2014) 109.
- 37.62. K. Kinoshita, T. Shimokawa, T. Kinari, H. Sawada, K. Kawakami and K. Ushioda, *Influence of non-glide stresses on the Peierls energy of screw dislocations*, Transactions of the JSME (in Japanese) **80** (2014) CM0018.
- 37.63. V.V. Hoang, N.T. Long and D.N. Son, *Crystallization of supercooled liquid and glassy Fe thin films*, Comput. Mater. Sci. **95** (2014) 491.
- 37.64. H. Mori, *Peierls Barrier of Screw Dislocation in bcc Iron at Finite Temperature*, Materials Transactions **55** (2014) 1531.
- 37.65. H. Jin, “*Atomistic Simulations of Solute-Interface Interactions in Iron*”, PhD Thesis, University of British Columbia (Vancouver), 2014.
- 37.66. M.D. Starostenkov and M.M. Aish, *Features of deformation and breaking for Ni nanowire* Letters on Materials **4** (2014) 89.
- 37.67. W. Gao, L. Kong and P. Hodgson, *Molecular dynamics simulation of heat transfer during quenching in CNT nanofluids*, Mater. Perform. Charact. **3** (2014) 210.
- 37.68. V.I. Dubinko, D. Terentyev, A.N. Dovbnya, V.A. Kushnir, I.V. Hodak, S.V. Lebedev, S.A. Kotrechko and A.V. Dubinko, *Radiation-induced softening of Fe and Fe-based alloys during in-situ electron irradiation under mechanical testing*, arXiv:1409.6799 (2014).
- 37.69. X. Li, *numerical study of crack initiation in a bcc iron system based on dynamic bifurcation theory*, J. Appl. Phys. **116** (2014) 164314.
- 37.70. J.Z. Yang, C. Mao, X. Li, C. Liu, *On the Cauchy-Born Approximation at Finite Temperature*, Comput. Mat. Sci. **99** (2015) 21.
- 37.71. L. M. Hale, H. Lim, J. A. Zimmerman, C. C. Battaile and C. R. Weinberger, *Insights on activation enthalpy for non-Schmid slip in body-centered cubic metals*, Scripta Mater. **99** (2015) 89.
- 37.72. D. A. Terentyev, A. V. Dubinko, V. I. Dubinko, S. V. Dmitriev, E. E. Zhurkin, and M. V. Sorokin, *Interaction of discrete breathers with primary lattice defects in bcc Fe* Modelling Simul. Mater. Sci. Eng. **23** (2015) 085007.
- 37.73. V.P. Ramunni and A.M.F. Rivas, *Diffusion behavior of Cr diluted in bcc and fcc Fe: Classical and quantum simulation methods*, Mater. Chem. Phys. **162** (2015) 659.
- 37.74. V. Hizhnyakov, M. Haas, A. Shelkan, M. Klopov, *Standing and Moving Discrete Breathers with Frequencies Above the Phonon Spectrum*, in: J.F.R. Archilla, N. Jiménez, V.J. Sánchez-Morcillo, L.M. García-Raffi (Eds.), Quodons Mica, (Springer, Cham, 2015): pp. 229–245.

- 37.75. H. Lim, L.M. Hale, J.A. Zimmerman, C.C. Battaile and C.R. Weinberger, *A Multi-scale Model of Dislocation Plasticity in α -Fe: Incorporating Temperature, Strain Rate and Non-Schmid Effects*, Int. J. Plast. **73** (2015) 100.
- 37.76. J. Dérès, L. Proville, M.-C. Marinica, *Dislocation depinning from nano-sized irradiation defects in a bcc iron model*, Acta Mater. **99** (2015) 99.
- 37.77. E.N. Koukaras, G. Kalosakas, C. Galiotis and K. Papagelis, *Phonon properties of graphene derived from molecular dynamics simulations*, Sci. Rep. **5** (2015) 12923.
- 37.78. K.D. Njoroge, “*A multi-scale dislocation model applied to metal plasticity*”, PhD thesis, University of Nairobi, 2015.
- 37.79. J.J. Möller and E. Bitzek, *On the influence of crack front curvature on the fracture behavior of nanoscale cracks*, Eng. Fract. Mech. **150** (2015) 197.
- 37.80. X.J. Wei, Y.P. Liu and S.P. Han, *Atomistic modeling determination of placeholder binding energy of Ti, C, and N atoms on α -Fe (100) surfaces*, IOP Conf. Ser.: Mater. Sci. Eng. **103** (2015) 012033.
- 37.81. T. Schuler, *Influence des amas lacunes – solutés sur le vieillissement des solutions solides de Fer- α* , PhD Thesis, Université Paris Sud XI (2015).
- 37.82. F. Maresca, “*Multi-scale modeling of plasticity and damage of lath martensite in multi-phase steels*”, PhD thesis, Technische Universiteit Eindhoven, Netherlands, 2015.
- 37.83. I. Adlakha, “*Role of Defect Interactions with Embrittlement Species in Iron: a Multiscale Perspective*”, PhD Thesis, Arizona State University, 2015.
- 37.84. В.А. Старухин and А.А. Мирзоев, *Вырождение потенциала погруженного атома на примере потенциала для железа*, Наука ЮУрГУ: материалы 67 - й научной конференции (Секции естественных наук) 297 (2015).
- 37.85. C.P. Chui, W. Liu, Y. Xu and Y. Zhou, *Molecular Dynamics Simulation of Iron – A Review*, SPIN **05** (2015) 1540007.
- 37.86. R.O. Ocaya, J.J. Terblans, *Coding Considerations for Standalone Molecular Dynamics Simulations of Atomistic Structures*, Int. J. Math. Comput. Phys. Electr. Comput. Eng. **10** (2016) 121.
- 37.87. J. J. Möller and E. Bitzek, *BDA: A novel method for identifying defects in body-centered cubic crystals*, MethodsX **3** (2016) 279.
- 37.88. P. Wang, S. Xu, J. Liu, X. Li, Y. Wei, H. Wang, H. Gao and W. Yang, *New Insights on Stacking Fault Behavior in Twin Induced Plasticity from Meta-Atom Molecular Dynamics Simulations*, arXiv:1604.00579 [cond-mat.mtrl-sci] (2016).
- 37.89. J. Yang, J. Huang, D. Fan, S. Chen and X. Zhao, *Comparative investigation on RE(La,Ce)AlO₃(100)/ γ -Fe(100) interfaces: A first-principles calculation*, Appl. Surf. Sci. **384** (2016) 207.
- 37.90. V. Hizhnyakov, M. Haas, M. Klopov and A. Shelkan, *Discrete breathers above phonon spectrum*, Letters on materials **6** (2016) 61.
- 37.91. F. Abdeljawad, D.L. Medlin, J.A. Zimmerman, K. Hattar and S.M. Foiles, *A diffuse interface model of grain boundary faceting*, J. Appl. Phys. **119** (2016) 235306.
- 37.92. I. Adlakha and K.N. Solanki, *Atomic-scale investigation of triple junction role on defects binding energetics and structural stability in α -Fe*, Acta Mater. **118** (2016) 64.

- 37.93. J. D. Humberson, *The Motion Mechanism and Thermal Behavior of Sigma 3 Grain Boundaries*, PhD Thesis, Carnegie Mellon University, Pittsburg, 2016.
- 37.94. M.D. Starostenkov and M.M. Aish, *Investigation of structural transformations of HCP Ti nanowires at low temperature*, Basic Problems of Material Science (BPMS) **13** (2016) 358.
- 37.95. F. Bianchini, *Mechanical Properties of Nickel-based Superalloys: A Multiscale Atomistic Investigation*, PhD Thesis, King's College London, UK.
- 37.96. G. Sainath and B. K. Choudhary, *Deformation behaviour of body centered cubic iron nanopillars containing coherent twin boundaries*, *Phylos. Mag. A* **96** (2016) 3502.
- 37.97. R.T. Hoffman III, *Kinetic monte carlo simulations of defect evolution in materials under irradiation by energetic particles*, PhD Thesis, Georgia Institute of Technology, USA (2016).
- 37.98. R.O. Ocaya and J.J. Terblans, *C-language package for standalone embedded atom method molecular dynamics simulations of fcc structures*, *SoftwareX* **5** (2016) 107.
- 37.99. M.M. Aish and M.D. Starostenkov, *Features of structural transformations of HCP metallic Ti nanowires using Cleri-Rosato potential at low temperature*, *Letters on materials* **6** (2016) 317.
- 37.100. C. Wang, *Molecular dynamics simulation on the deformation behavior of copper(CU)/zirconium(ZR) metallic glass under multiaxial stress states*, PhD Thesis, National University of Singapore, 2016.
- 37.101. J. Zeinalov, *Variable time domain discretization methodology for molecular dynamics simulation of metallic compounds*, PhD Thesis, Ryerson University, Toronto, Canada (2016).
- 37.102. X. Xing, *Molecular Dynamics Simulations on Crack Growth Behavior of BCC Fe under Variable Pressure Fluctuations*, PhD Thesis, Univeristy of Alberta, Canada (2016).
- 37.103. K. G. Gaminchev, *Thermal and structural properties of iron at high pressure by molecular dynamics*, arXiv:1702.04909 [cond-mat.mtrl-sci] (2017).
- 37.104. X. Ou, *Molecular dynamics simulations of fcc-to-bcc transformation in pure iron: a review*, *Mater. Sci. Tech.* **33** (2017) 822.
- 37.105. H. Mori, *Temperature and Stress Dependence of Mobility of Screw Dislocation in BCC Iron*, *Solid State Phenom.* **258** (2017) 17.
- 37.106. I.N. Burnyshev and I.L. Nagornykh, *On the identification of the crystalline structure in molecular dynamic models of deformable crystals of iron and titanium*, *Khimicheskaya fizika i mezoskopiya* **19** (2017) 409.
- 37.107. P. Wang, S. Xu, J. Liu, X. Li, Y. Wei, H. Wang, H. Gao and W. Yang, *Atomistic Simulation for Deforming Complex Alloys with Application toward TWIP Steel and Associated Physical Insights*, *J. Mech. Phys. Solids* **98** (2017) 290.
- 37.108. J. Yang, X. Liu, G. Jia and X. Fu, *A first-principles study on electronic structures and elastic properties of metal doped α -Fe(N) high nitrogen steel*, *J. Iron Steel Res. Int.* **24** (2017) 103.
- 37.109. M. Landeiro dos Santos, A. Choudhury and L. Proville, *Ubiquity of quantum zero-point fluctuations in dislocation glide*, *Phys. Rev. B* **95** (2017) 094103.

- 37.110. J.J. Möller, *Atomistic Simulations of Crack Front Curvature Effects and Crack-Microstructure Interactions*, FAU University Press (Erlangen, 2017)
- 37.111. L.M. Hale and C.A. Becker, *Vacancy dissociation in body-centered cubic screw dislocation cores*, *Comput. Mater. Sci.* **135** (2017) 1.
- 37.112. M. N. Magomedov, *Change in the lattice properties and melting temperature of a face-centered cubic iron under compression*, *Tech. Phys.* **62** (2017) 569.
- 37.113. J.W. Pegues, S. Shao, N. Shamsaei, J.A. Schneider and R.D. Moser, *Cyclic strain rate effect on martensitic transformation and fatigue behaviour of an austenitic stainless steel: Microstructure and fatigue behaviour of 304L stainless steel*, *Fatigue Fract. Eng. Mater. Struct.* **40** (2017) 2080.
- 37.114. Y. Ma and S. H. Garofalini, *Reactive Molecular Dynamics Simulations of the Conversion and Reconversion Reactions in FeF₂ Nanoparticles*, *J. Phys. Chem.* **121** (2017) 15002.
- 37.115. A. Sobolev, V. Starukhin, I. Buldashev and A. Mirzoev, *New potentials for multiscale simulations of liquid metals*, *EPJ Web Conf.* **151** (2017) 05004.
- 37.116. R.O. Ocaya and J.J. Terblans, *Coding considerations for standalone molecular dynamics simulations of atomistic structures*, *J. Phys.: Conf. Ser.* **905** (2017) 012018.
- 37.117. U.K. Chohan, *Modelling Early Stages of Hydrogen Embrittlement and Surface Oxidation of Iron using Density Functional Theory*, PhD thesis, University of Manchester, UK, 2017.
- 37.118. R.O. Ocaya and J.J. Terblans, *Temperature specification in atomistic molecular dynamics and its impact on simulation efficacy*, *J. Phys.: Conf. Ser.* **905** (2017) 012031
- 37.119. P.S. Volegov, R.M. Gerasimov, R.P. Davlyatshin, *Models of molecular dynamics: a review of EAM potentials. Part 1: Potentials for single-component systems*, *PNRPU Mech. Bull.* (2017) 214.
- 37.120. S.A. Etesami and E. Asadi, *Molecular dynamics for near melting temperatures simulations of metals using modified embedded-atom method*, *J. Phys. Chem. Sol.* **112** (2018) 61.
- 37.121. S. Mahmoud, M. Trochet, O.A. Restrepo and N. Mousseau, *Study of point defects diffusion in nickel using kinetic activation-relaxation technique*, *Acta Materialia* **144** (2018) 679.
- 37.122. H. Salahshoor, R. K. Pal and J. J. Rimoli, *Non-Schmid Effects In Perfect Single Crystal Metals At Zero Temperature*, *Extreme Mech. Lett.* **20** (2018) 9.
- 37.123. E. Baibuz, S. Vigonski, J. Lahtinen, J. Zhao, V. Jansson, V. Zadin, F. Djurabekova, *Migration barriers for surface diffusion on a rigid lattice: challenges and solutions*, *Comput. Mater. Sci.* **146** (2018) 287.
- 37.124. X. Zhao, C. Lu, A.K. Tieu, L. Zhan, L. Pei, M. Huang, *Deformation mechanisms and slip-twin interactions in nanotwinned body-centered cubic iron by molecular dynamics simulations*, *Comput. Mater. Sci.* **147** (2018) 34.
- 37.125. X. Wu, Z. Liu, T. Luo, *Magnon and phonon dispersion, lifetime, and thermal conductivity of iron from spin-lattice dynamics simulations*, *J. Appl. Phys.* **123** (2018) 085109.
- 37.126. L.B. Pártay, *On the performance of interatomic potential models of iron: Comparison of the phase diagrams*, *Comput. Mater. Sci.* **149** (2018) 153.

- 37.127. H. Lim, C.C. Battaile, C.R. Weinberger, *Simulating Dislocation Plasticity in BCC Metals by Integrating Fundamental Concepts with Macroscale Models*, in: Integr. Comput. Mater. Eng. ICME Met., Wiley-Blackwell, 2018: pp. 71–105.
- 37.128. S. Vigonski, “A TOMISTIC STUDY OF SURFACE EFFECTS IN METALS”, PhD thesis, University of Helsinki, 2018.
- 37.129. U.K. Chohan, E. Jimenez-Melero and S.P.K. Koehler, *Magnetocrystalline effects on the subsurface hydrogen diffusion in γ -Fe(001)*, Comput. Mater. Sci. **153** (2018) 57.
- 37.130. H. Lambert, A. Fekete, J. R. Kermode, A. De Vita, *Imeal: A Computational Framework for the Calculation of the Atomistic Properties of Grain Boundaries*, Comput. Phys. Commun. **232** (2018) 256.
- 37.131. J.J. Möller, M. Mrovec, I. Bleskov, J. Neugebauer, T. Hammerschmidt, R. Drautz, C. Elsässer, T. Hickel and E. Bitzek, *{110} planar faults in strained bcc metals: Origins and implications of a commonly observed artifact of classical potentials*, Phys. Rev. Mater. **2** (2018) 093606.
- 37.132. M.R. Fellingner, A.M.Z. Tan, L.G. Hector Jr. and D.R. Trinkle, *Geometries of edge and mixed dislocations in bcc Fe from first principles calculations*, Phys. Rev. Materials **2** (2018) 113605
- 37.133. J. Möller and E. Bitzek, *Atomic-scale modeling of elementary processes during the fatigue of metallic materials: from crack initiation to crack-microstructure interactions*. In: H.J. Christ (eds) Fatigue of Materials at Very High Numbers of Loading Cycles (Springer Spektrum, Wiesbaden, 2018)
- 37.134. J. Nutter, “*Direct TEM Observation of the Movement of the Austenite - Ferrite Interface in Steels*”, PhD thesis, The University of Sheffield, 2018.
- 37.135. A. Mayer, V. Krasnikov and V. Pogorelko, *Limit of Ultra-high Strain Rates in Plastic Response of Metals*. In: Gdoutos E. (eds) Proceedings of the First International Conference on Theoretical, Applied and Experimental Mechanics. ICTAEM 2018. Structural Integrity, vol 5. Springer, Cham, 2019.
- 37.136. E. Rothchild, Q.-J. Li and E. Ma, *On the validity of using the Debye model to quantitatively correlate the shear modulus with vibrational properties in cubic metals*, Scripta Mater. **158** (2019) 34.
- 37.137. C.T. Nguyen, D.T. Ho, S.T. Choi, D.-M. Chun, S.Y. Kim, *Pattern transformation induced by elastic instability of metallic porous structures*, Comput. Mater. Sci. **157** (2019) 17.
- 37.138. S. Ratanaphan, R. Sarochawikasit, N. Kumanuvong, S. Hayakawa, H. Beladi, G.S. Rohrer, T. Okita, *Atomistic simulations of grain boundary energies in austenitic steel*, J. Mater. Sci. **54** (2019) 5570,
- 37.139. L.S. Morrissey, S.M. Handrigan, S. Subedi and S. Nakhla, *Atomistic uniaxial tension tests: investigating various many-body potentials for their ability to produce accurate stress strain curves using molecular dynamics simulations*, Mol. Simul. **45** (2019) 501.
- 37.140. H.O. Almisbahi, D.A. Faux, L.H. Tang and M.F. Abulkhair, *Visualizing molecular phonons using eigenvectors with smallest eigenvalues of the atomic trajectories*, Comput. Mater. Sci. **160** (2019) 86.

- 37.141. A. Hasanzadeh, A. Hamedani, G. Alahyarizadeh, A. Minucmehr and M. Aghaei, *The role of chromium and nickel on the thermal and mechanical properties of FeNiCr austenitic stainless steels under high pressure and temperature: a molecular dynamics study*, Mol. Simul. **45** (2019) 672.
- 37.142. C. Yuan, J.Z. Yang and X. Li, *An Effective and Easy-to-Implement Boundary Condition for Molecular Dynamics Simulations*, Commun. Comput. Phys. **26** (2019) 192.
- 37.143. A. Babushkin, R. Selyukov, I. Amirov, *Effect of Ar ion-plasma treatment on residual stress in thin Cr films*, Proc. SPIE **11022** (2019) 1102223.
- 37.144. F. Bianchini, A. Glielmo, J. R. Kermode, and A. De Vita, *Enabling QM-accurate simulation of dislocation motion in γ -Ni and α -Fe using a hybrid multiscale approach*, Phys. Rev. Materials **3** (2019) 043605.
- 37.145. M. Zhang, W. Peng, H. Zhang, B. Wu, K. Sun and L. Fang, *The effect of PKA directions on the primary radiation damage in the alpha iron nanowires*, Mater. Chem. Phys. **232** (2019) 16.
- 37.146. R.O. Ocaya, “*Toolkit-based framework for scalable High Performance Standalone Molecular Dynamics simulations*”, PhD Thesis, University of the Free State, Bloemfontein (South Africa), 2019.
- 37.147. X. Li and C. Reina, *Simultaneous spatial and temporal coarse-graining: From atomistic models to continuum elastodynamics*, J. Mech. Phys. Solids **130** (2019) 118.
- 37.148. X. Xing, H. Zhang, G. Cui, J. Liu and Z. Li, *Hydrogen inhibited phase transition near crack tip – An atomistic mechanism of hydrogen embrittlement*, Int. J. Hydrog. Energy **44** (2019) 17146.
- 37.149. L.-W. Zhang, Y. Xie, D. Lyu and S. Li, *Multiscale Modeling of Dislocation Patterns and Simulation of Nanoscale Plasticity in Body-centered Cubic (BCC) Single Crystals*, J. Mech. Phys. Solids **130** (2019) 297.
- 37.150. K. Li, R. Khanna, J. Zhang, G. Li, H. Li, C. Jiang, M. Sun, Z. Wang, Y. Bu, M. Bouhadja, Z. Liu, M. Barati, *Determination of the accuracy and reliability of molecular dynamics simulations in estimating the melting point of iron: Roles of interaction potentials and initial system configurations*, J. Mol. Liquids. **290** (2019) 111204.
- 37.151. I.A. Bryukhanov, V.A. Gorodtsov and D. Lisovenko, *Chiral Fe nanotubes with both negative Poisson’s ratio and Poynting’s effect. Atomistic simulation*, J. Phys.: Condens. Matter. **31** (2019) 475304.
- 37.152. S.M. Handrigan, L.S. Morrissey and S. Nakhla, *Investigating various many-body force fields for their ability to predict reduction in elastic modulus due to vacancies using molecular dynamics simulations*, Mol. Simul. **45** (2019) 1341.
- 37.153. L. Ren, Y. Cheng, Q. Wang and J. Yang, *Simulation of the relationship between calcium carbonate fouling and corrosion of Iron surface*, Colloid Surface A **582** (2019) 123882.
- 37.154. X.J. Liu, J.C. Yang, G.X. Jia, C.Q. Yang and C.K. Cai, *Electronic structures and mechanical properties of metal doped α -Fe (N): a first principle calculation*, CAILIAO GONGCHENG - J. Mater. Eng. **47** (2019) 72.
- 37.155. S. Mahmoud, *Étude numérique de la diffusion des défauts ponctuels dans les alliages de nickel*, PhD Thesis Université de Montréal, 2019.

- 37.156. А.С. Бабушкин, Р.В. Селюков, "Влияние ионно-плазменной обработки на остаточные механические напряжения в тонких пленках хрома", Труды ФТИАН, М., Наука **29** (2019) 112.
- 37.157. S.M. Handrigan, *Investigating the effect of porosity on elastic modulus through finite element analysis and molecular dynamics simulations*. Masters thesis, Memorial University of Newfoundland, 2019.
- 37.158. I.A. Bryukhanov, V.A. Gorodtsov and D.S. Lisovenko, *Atomistic modeling of the mechanical properties of chiral metallic nanotubes*, Phys. Mesomech. **22** (2019) 48.
- 37.159. X. Liu, J. Yang, G. Jia, C. Yang and C. Cai, *A First Principle Study on Occupancy and Electronic Structure of V, Mn, Mg in α -Fe(N)*, Chinese Journal of Rare Metals **43** (2019) 1357.
- 37.160. M.M. Aish, *Structural transformation of hcp metallic nanowire using Cleri-Rosato potential*, Mater. Phys. Mech. **44** (2020) 83.
- 37.161. S.O. Kart, H.H. Kart and T. Cagin, *Atomic-scale insights into structural and thermodynamic stability of spherical Al@Ni and Ni@Al core-shell nanoparticles*, J. Nanopart. Res. **22** (2020) 140.
- 37.162. I.A. Bryukhanov, V.A. Gorodtsov and D.S. Lisovenko, *Modeling of the Mechanical Properties of Chiral Metallic Nanotubes*, Phys. Mesomech. **23** (2020) 477.
- 37.163. M.M. Aish and E.H. Aish, *Elasticity of metallic Ni, Al and Ni₃Al nanowires*, J. Chem. Technol. Metall. **55** (2020) 910.
- 37.164. Y. Zhou, J. Tranchida, Y. Ge, J.Y. Murthy, T.S. Fisher, *Atomistic Simulation of Phonon and Magnon Thermal Transport across the Ferro-Paramagnetic Transition*, Phys. Rev. B **101** (2020) 224303.
- 37.165. R. Meyer, A. Mutter, P. Umstätter, V. Schünemann, T. Beck, M. Smaga and H.M. Urbassek, *Vibrational and magnetic signatures of extended defects in Fe*, Eur. Phys. J. B **93** (2020) 116.
- 37.166. T. Ma and H. Xie, *The formation mechanism of face-centered cubic phase in the impact process of single crystal iron along the [101] direction*, Acta Phys. Sin. **69** (2020) 130202.
- 37.167. Y. Hou, J. Wang, L. Liu, G. Li and D. Zhai, *Mechanism of pitting corrosion induced by inclusions in Al-Ti-Mg deoxidized high strength pipeline steel*, Micron. **138** (2020) 102898.
- 37.168. S. Sakout, D. Weisz-Patrault and A. Ehrlicher, *Energetic upscaling strategy for grain growth. I: Fast mesoscopic model based on dissipation*, Acta Mater. **196** (2020) 261.
- 37.169. G. Dos Santos, R. Aparicio, J. Tranchida, D. Linares, E.N. Miranda, E.M. Bringa, *Size and temperature dependent magnetization of iron nanoclusters*, Phys. Rev. B **102** (2020) 184426.
- 37.170. C. Zeni, "Gaussian process regression for nonparametric force fields", PhD Thesis, King's College London, 2020.
- 37.171. S. Combettes, J. Lam, P. Benzo, A. Ponchet, M.-J. Casanove, F. Calvo and M. Benoit, *How interface properties control the equilibrium shape of core-shell Fe-Au and Fe-Ag nanoparticles*, Nanoscale **12** (2020) 18079.
- 37.172. X. Xing, G. Deng, H. Zhang, G. Cui, J. Liu, Z. Li, B. Wang, S. Li and C. Qi, *Molecular Dynamics Studies of Hydrogen Effect on Intergranular Fracture in α -Iron*, Materials **13**

- (2020) 4949.
- 37.173. L.S. Morrissey and S. Nakhla, *Considerations when calculating the mechanical properties of single crystals and bulk polycrystals from molecular dynamics simulations*, Mol. Simul. **46** (2020) 1433.
- 37.174. M.N. Magomedov, *Study of Properties of Gold–Iron Alloy in the Macro- and Nanocrystalline States under Different P–T Conditions*, Phys. Solid State **62** (2020) 2280.
- 37.175. X. Xing, R. Cheng, G. Cui, J. Liu, J. Gou, C. Yang, Z. Li and F. Yang, *Quantification of the temperature threshold of hydrogen embrittlement in X90 pipeline steel*, Mater. Sci. Eng. A. **800** (2021) 140118.
- 37.176. M.I. Mendeleev, V. Borovikov, *Development of interatomic potential appropriate for simulation of dislocation migration in fcc Fe*, arXiv:2009.12265 [cond-mat.mtrl-sci] (2020).
- 37.177. M.N. Magomedov, *Study of properties of fcc-Au-Fe alloys in macro- and nanocrystalline states under various P-T-conditions*, J. Phys. Chem. Solids, **151** (2021) 10995.
- 37.178. H. Xie, T. Ma, T. Yu and F. Yin, *Body-centered-cubic to face-centered-cubic phase transformation of iron under compressive loading along [100] direction*, Mater. Today Commun. **26** (2021) 101961.
- 37.179. M. N. Magomedov, *Changes in the Properties of Iron during BCC-FCC Phase Transition*, Phys. Solid State **63** (2021) 215.
- 37.180. N. Bertin, W. Cai, S. Aubry and V.V. Bulatov, *Core energies of dislocations in bcc metals*, Phys. Rev. Materials **5** (2021) 025002.
- 37.181. S. Kazanç and C.A. Canbay, *The Investigation with Molecular Dynamic Simulation of $\alpha \rightarrow \gamma \rightarrow \delta$ Solid-Solid Phase Transformation in Fe*, Firat Univer. J. Eng. **33** (2021) 275.
- 37.182. I.A. Bryukhanov, M.A. Volkov, V.A. Gorodtsov and D.S. Lisovenko, *Elastic properties of chiral metallic nanotubes formed from cubic crystals*, Phys. Mesomech. **24** (2021) 464.
- 37.183. H. Kim, N. Mathew, D.J. Luscher and A. Huntera, *Phase field dislocation dynamics (PFDD) modeling of non-Schmid behavior in BCC metals informed by atomistic simulations*, J. Mech. Phys. Solids **152** (2021) 104460.
- 37.184. Y. Xie and S. Li, *Finite temperature atomistic-informed crystal plasticity finite element modeling (CPFEM) of single crystal tantalum (α -Ta) at micron scale*, Int. J. Numer. Methods Eng. **122** (2021) 4660.
- 37.185. W. Shao, Z. Shi, L. Rao, X. Xing, Y. Zhou and Q. Yang, *Cohesion properties and tensile cracking behavior of CrN coating on γ -Fe matrix by first principles study*, Appl. Surf. Sci. **563** (2021) 150279.
- 37.186. S. Starikov, D. Smirnova, T. Pradhan, Y. Lysogorskiy, H. Chapman, M. Mrovec and R. Drautz, *Angular-dependent interatomic potential for large-scale atomistic simulation of iron: Development and comprehensive comparison with existing interatomic models*, Phys. Rev. Materials **5** (2021) 063607.
- 37.187. К. Дж. Релмасира, *Влияние процесса эволюции пор и трещин при фрикционном нагреве на ресурсную долговечность теплоустойчивых сталей с покрытием*, диссертации на соискание ученой степени кандидата технических наук, Тульский госу-

- дарственный университет (2021).
- 37.188. G. dos Santos, R. Meyer, R. Aparicio, J. Tranchida, E.M. Bringa and H.M. Urbassek, *Spin-lattice dynamics of surface vs core magnetization in Fe nanoparticles*, Appl. Phys. Lett. **119** (2021) 012404.
- 37.189. S. Kazanç and C.A. Canbay, *The Investigations Under the Hydrostatic Pressure of the Crystal and Glass Phase Transformation Temperatures of the Fe Element: A Molecular Dynamic Simulations Study*, BSEU J. Sci. **8** (2021) 65.
- 37.190. M.N. Magomedov, *Changes in the structure of the Au-Fe alloy with a change in the concentration and with a decrease of the nanocrystal size*, Solid State Sci. **120** (2021) 106721.
- 37.191. S. Zhang, J. Ding, Q. Tong, X. Hang, K. Song, S. Lu, *The Calculation and Verification for the Parameters in the Grüneisen EOS for the Complex Alloys Based on Molecular Dynamics : GH4169*, J. Chongqing Inst. Technol. **35** (2021) 115.
- 37.192. S. Kazanç and C.A. Canbay, *The Effect of Uniaxial Tensile Strain on the Mechanical Properties of Cu Element: Molecular Dynamics Method*, Firat Univer. J. Eng. **33** (2021) 481.
- 37.193. K.H. Pham and T.T.T. Giap, *The liquid–amorphous phase transition, slow dynamics and dynamical heterogeneity for bulk iron: a molecular dynamics simulation*, RSC Adv. **11** (2021) 32435.
- 37.194. S. Paul, M. Muralles, D. Schwen, M. Short and K. Momeni, *A Modified Embedded-Atom Potential for Fe-Cr-Si Alloys*, Phys. Chem. C **125** (2021) 22863.
- 37.195. Y. Xie, S. Li, *Geometrically-compatible dislocation pattern and modeling of crystal plasticity in body-centered cubic (bcc) crystal at micron scale*, CMES – Comput. Model. Eng. Sci. **129** (2021) 1419.
- 37.196. Y. Li, W. Fan, X. Li, W. Ren, Y. Li, *Nucleation Mechanism of Iron in an External Magnetic Field*[J]. Chin. J. Chem. Phys., **34** (2021) 843–849.
- 37.197. A. Zair, *Viellissement des aciers austénitiques : modélisation atomistique de la ségrégation*, PhD Thesis, Université Aix-Marseille (2021)
- 37.198. J.R. Cooke III and J.R. Lukes, *An implicit spin lattice dynamics integrator in LAMMPS*, **271** (2022) 108203.
- 37.199. H.W. Lee and C. Basaran, *Predicting high cycle fatigue life with unified mechanics theory*, Mech. Mater. **164** (2022) 104116.
- 37.200. Y. Huang, C. Hu, Z. Xiao, N. Gao, Q. Wang, Z. Liu, W. Hu, H. Deng, *Atomic insight into iron corrosion exposed to supercritical water environment with an improved Fe-H₂O reactive force field*, App. Surf. Sci. **580** (2022) 152300.
- 37.201. A. Zaïr, M. Sansa, A. Dhouib, F. Ribeiro, G. Trégliã, *Effect of magnetism on the atomic structure and properties of $\Sigma 5$ grain boundaries in fcc Fe and fcc Ni*, Acta Mater. **226** (2022) 117636.
- 37.202. Z. Wu, R. Wang, L. Zhu, S. Pattamatta and D. Srolovitz, *Revealing and Controlling the Core of Screw Dislocations in BCC Metals*, (2021) doi: 10.21203/rs.3.rs-879826.
- 37.203. R. Meyer, G. dos Santos, R. Aparicio, E.M. Bring, H.M. Urbassek, *Influence of vacancies on the temperature-dependent magnetism of bulk Fe: A spin-lattice dynamics approach*, Computat. Condens. Matt. **31** (2022) e00662.

- 37.204. S.M. Handrigan and S. Nakhla, *Examination of critical grain size of isotropic nanocrystalline iron through molecular dynamics analysis*, Mol. Simul. **48** (2022) 976.
- 37.205. T.Y. Song, R.L. Liu, L.Z. Li, C.X. Bian and M.F. Yan, *DFT investigation of carbon-expanded α phase with different alloying element*, Vacuum **202** (2022) 111199,
- 37.206. R. Meyer, F. Valencia, G. dos Santos, R. Aparicio, E.M. Bringa and H.M. Urbassek, *Temperature-dependent magnetism in Fe foams via spin-lattice dynamics*, Comput. Mater. Sci. **211** (2022) 111483.
- 37.207. S. Saxena, M. Spinola, P. Gupta and D.M. Kochmann, *Finite-temperature surface elasticity of crystalline solids*, Comput. Mater. Sci. **211** (2022) 111511.
- 37.208. G. dos Santos, F. Romá, R. Aparicio, J. Tranchida and E.M. Bringa, *Can spin-lattice dynamics model hysteresis loops?*, arXiv:2205.10418 [cond-mat.other] (2022).
- 37.209. H.Z. Liu, J. Zhang, J. Zhang, L.F. Zhang, Y.F. Ge. *First-principle study of the effect of cerium on the modification and corrosion of nonmetal inclusions in steel*, Gongcheng Kexue Xuebao/Chinese Journal of Engineering **44** (2022) 1516. doi: [10.13374/j.issn2095-9389.2022.02.04.001](https://doi.org/10.13374/j.issn2095-9389.2022.02.04.001).
- 37.210. Y. Lei, J. Zhang, Y. Zhang, X. Li, Y. Xu, X. Wu, M. Sun, C. Liu and Z. Wang, *An embedded-atom Method potential for studying the properties of Fe-Pb solid-liquid interface*, J. Nucl. Mater. **572** (2022) 154041. doi: [10.1016/j.jnucmat.2022.154041](https://doi.org/10.1016/j.jnucmat.2022.154041).
- 37.211. R. Wang, L. Zhu, S. Pattamatta, D.J. Srolovitz, Z. Wu, *The Taming of the Screw: Dislocation Cores in BCC Metals and Alloys*, arXiv:2209.12323 [cond-mat.mtrl-sci] (2022).
- 37.212. B. Waters, D.S. Karls, I. Nikiforov, R.S. Elliott, E.B. Tadmor, B. Runnels, *Automated determination of grain boundary energy and potential-dependence using the OpenKIM framework*, Computat. Mater. Sci. **220** (2023) 112057. doi: [10.1016/j.commatsci.2023.112057](https://doi.org/10.1016/j.commatsci.2023.112057)
- 37.213. V.I. Kushch, *Atomistic and continuum modeling of nanoparticles: Elastic fields, surface constants, and effective stiffness*, Int. J. Eng. Sci. **183** (2023) 103806. doi: [10.1016/j.ijengsci.2022.103806](https://doi.org/10.1016/j.ijengsci.2022.103806)
- 37.214. R.K. Barik, A. Ghosh and D. Chakrabarti, *Fundamental insights on ductile to brittle transition phenomenon in ferritic steel*, Materialia **27** (2023) 101667. doi: [10.1016/j.mtla.2022.101667](https://doi.org/10.1016/j.mtla.2022.101667)
- 37.215. J.R. Cooke, III and J.R. Lukes, *Angular momentum conservation in spin-lattice dynamics simulations*, Phys. Rev. B **107** (2023) 024419. doi: [10.1103/PhysRevB.107.024419](https://doi.org/10.1103/PhysRevB.107.024419)
- 37.216. S. Paul, D. Schwen, M.P. Short and K. Momeni, *A Modified Embedded-Atom Method Potential for a Quaternary Fe-Cr-Si-Mo Solid Solution Alloy*, Materials **16** (2023) 2825. doi: [10.3390/ma16072825](https://doi.org/10.3390/ma16072825)
- 37.217. P. Nieves, S. Arapan, S.H. Zhang, A.P. Kądziaława, R.F. Zhang, D. Legut, *Automated calculations of exchange magnetostriction*, Comput. Mater. Sci. **224** (2023) 112158. doi: [10.1016/j.commatsci.2023.112158](https://doi.org/10.1016/j.commatsci.2023.112158).
- 37.218. P. Kumar, M.M. Ludhwani, S. Das, V. Gavini, A. Kanjarla, I. Adlakha, *Effect of hydrogen on plasticity of α -Fe: A multi-scale assessment*, Int. J. Plast. **165** (2023) 103613. doi: [10.1016/j.ijplas.2023.103613](https://doi.org/10.1016/j.ijplas.2023.103613)
- 37.219. H. Mei, F. Wang, J. Li and L. Kong, *Elastic anisotropy and its temperature dependence*

- for cubic crystals revealed by molecular dynamics simulations, *Model. Simul. Mater. Sci. Eng.* **31** (2023) 065013. doi: [10.1088/1361-651X/ace541](https://doi.org/10.1088/1361-651X/ace541)
- 37.220. J. Zhou, X.S. Li, X.B. Hou, H.B. Ke, X.D. Fan, J.H. Luan, H.L. Peng, Q.S. Zeng, H.B. Lou, J.G. Wang, C.T. Liu, B.L. Shen, B.A. Sun, W.H. Wang, H.Y. Bai, *Ultrahigh Permeability at High Frequencies via A Magnetic-Heterogeneous Nanocrystallization Mechanism in An Iron-Based Amorphous Alloy*, *Adv. Mater.* **35** (2023) 2304490. doi: [10.1002/adma.202304490](https://doi.org/10.1002/adma.202304490)
- 37.221. G. dos Santos, R. Meyer, D. Tramontina, E.M. Bringa and H.M. Urbassek, *Spin-lattice-dynamics analysis of magnetic properties of iron under compression*, *Sci. Rep.* **13** (2023) 14282. doi: [10.1038/s41598-023-41499-2](https://doi.org/10.1038/s41598-023-41499-2)
- 37.222. I. Lobzenko, T. Tsuru, H. Mori, D. Matsunaka and Y. Shihara, *Implementation of Atomic Stress Calculations with Artificial Neural Network Potentials*, *Mater. Trans.* **64** (2023) 2431. doi: [10.2320/matertrans.MT-M2023093](https://doi.org/10.2320/matertrans.MT-M2023093)
- 37.223. G. dos Santos, F. Romá, J. Tranchida, S. Castedo, L.F. Cugliandolo, and E.M. Bringa, *Feasibility analysis towards the simulation of hysteresis with spin-lattice dynamics*, *Phys. Rev. B* **108** (2023) 134417. doi: [10.1103/PhysRevB.108.134417](https://doi.org/10.1103/PhysRevB.108.134417)
- 37.224. T.D. Cuong and A.D. Phan, *Reconstructing the phase diagram of iron in the terapascal region via the statistical moment method*, *Phys. Rev. B* **108** (2023) 134111. doi: [10.1103/PhysRevB.108.134111](https://doi.org/10.1103/PhysRevB.108.134111)
- 37.225. H. Yang, P. Ma, M. Zhang, L. Long and Q. Yang, *Dynamics Simulation of the Effect of Defect Size on Magnetostrictive Properties of Low-Dimensional Iron Thin Films*, *Nanomaterials* **13** (2023) 3009. doi: [10.3390/nano13233009](https://doi.org/10.3390/nano13233009)
- 37.226. X. Xing, F. Li, J. Liu, G. Cui, Z. Li, Y.F. Cheng, *Molecular dynamics modeling of hydrogen-induced plastic deformation and cracking of α -iron*, *J. Mater. Sci. Technol.* **176** (2024) 119. doi: [10.1016/j.jmst.2023.07.058](https://doi.org/10.1016/j.jmst.2023.07.058)
- 37.227. P. Jiang, R. Qiu, J. Cao, X. Liao, Y. Chen, Z. Liu, X. He, W. Yang, H. Deng, *Development of U-Zr-Xe ternary interatomic potentials appropriate for simulation of defect and Xe behaviors in U-Zr system*, *J. Nucl. Mater.* **588** (2024) 154824. doi: [10.1016/j.jnucmat.2023.154824](https://doi.org/10.1016/j.jnucmat.2023.154824)
- 37.228. T. Hu, J.Z. Yang and C. Yuan, *DPK: Deep Neural Network Approximation of the First Piola-Kirchhoff Stress*, *Adv. Appl. Math. Mech.* **16** (2024) 75. doi: [10.4208/aamm.OA-2022-0159](https://doi.org/10.4208/aamm.OA-2022-0159)
- 37.229. I.S. Winter and T.J. Hardin, *An intrinsic ductility parameter derived from anisotropic linear elasticity theory*, *Scripta Materialia* **242** (2024) 115950. doi: [10.1016/j.scriptamat.2023.115950](https://doi.org/10.1016/j.scriptamat.2023.115950)
- 37.230. L. Proville and A. Choudhury, *Unravelling the jerky glide of dislocations in body-centred cubic crystals*, *Nat. Mater.* **23** (2024) 47. doi: [10.1038/s41563-023-01728-5](https://doi.org/10.1038/s41563-023-01728-5)
- 37.231. L. Shao, R. Bai, Y. Wu, J. Zhou, X. Tong, H. Peng, T. Liang, Z. Li, Q. Zeng, B. Zhang, H. Ke and W. Wang, *Critical state-induced emergence of superior magnetic performances in an iron-based amorphous soft magnetic composite*, *Mater. Futures* **3** (2024) 025301. doi: [10.1088/2752-5724/ad2ae8](https://doi.org/10.1088/2752-5724/ad2ae8)
- 37.232. S.D. Taylor, A.A. Kohnert, S.V. Lambeets, K.H. Yano, E.K. Still, P.G. Simonin, P.

- Hosemann, B.P. Uberuaga, T.C. Kaspar and D.K. Schreiber, *Directly resolving surface vs. lattice self-diffusion in iron at the nanoscale using in situ atom probe capabilities*, *Materials* **34** (2024) 102078. doi: [10.1016/j.mtla.2024.102078](https://doi.org/10.1016/j.mtla.2024.102078)
38. H. Chamati and S. Romano, *Phase transitions in three dimensional generalized xy models*, *Eur. Phys. J B* **54** (2006) 249–254.
- 38.1. Y.-Z. Sun, J.-C. Liang, S.-L. Xu and L. Yi, *Berezinskii–Kosterlitz–Thouless phase transition of 2D dilute generalized XY model*, *Physica A* **389** (2010) 1391.
- 38.2. B. S. Dillon, S. Chiesa and R. T. Scalettar, *Monte Carlo study of the two-dimensional vector Blume–Capel model*, *Phys. Rev. B* **82** (2010) 184421.
39. H. Chamati and N. Papanicolaou, *Phonon density of states of iron from molecular dynamics simulations*, *J. Optoelectron. Adv. Mater.* **9** (2007) 159–161.
- 39.1. И.Л. Нагорных, *Молекулярно–динамическое моделирование поведения системы железо–водород при деформировании*, диссертации на соискание учёной степени кандидата физико–математических наук, Российской академии наук Институте прикладной механики Уральского отделения РАН, Ижевск, Россия, (2011).
40. H. Chamati and S. Romano, *First–order phase transitions in classical lattice gas spin models*, *Phys. Rev. B* **75** (2007) 184413 (9 pages).
- 40.1. С.Е. Campañá Cué, *Elastic green’s function techniques for molecular dynamics. Applications to tribology*, PhD Thesis, University of Western Ontario London, Ontario, Canada.
- 40.2. О. Капикраниан, “*Influence of disorder on the low temperature behaviour of two–dimensional spin models with continuous symmetry*”, Thèse de doctorat, l’Université Henri Poincaré, Nancy I, 2009.
- 40.3. Y.-Z. Sun, J.-C. Liang, S.-L. Xu and L. Yi, *Berezinskii–Kosterlitz–Thouless phase transition of 2D dilute generalized XY model*, *Physica A* **389** (2010) 1391.
- 40.4. О. Капикраниан and Y. Holovatch, *Spin vortices and vacancies: Interactions and pinning on a square lattice*, *Phys. Rev. B* **81** (2010) 134437.
- 40.5. B. S. Dillon, S. Chiesa and R. T. Scalettar, *Monte Carlo study of the two-dimensional vector Blume–Capel model*, *Phys. Rev. B* **82** (2010) 184421.
- 40.6. J.D. Cone, A. Zujev and R.T. Scalettar, *Isentropic curves at magnetic phase transitions*, *Phys. Rev. B* **83** (2011) 045108.
- 40.7. S.A. Cannas and D.A. Stariolo, *Three-state model with competing antiferromagnetic and pairing interactions*, *Phys. Rev. E* **99** (2019) 042137
- 40.8. F. Cescatti, M. Ibáñez-Berganza, A. Vezzani and R. Burioni, *Analysis of the low-temperature phase in the two-dimensional long-range diluted XY model*, *Phys. Rev. B* **100** (2019) 054203.
- 40.9. D. Frydel and Y. Levin, *Thermodynamic collapse in a lattice-gas model for a two-component system of penetrable particles*, *Phys. Rev. E* **102** (2020) 032101.
- 40.10. B.E. Skovdal, G.K. Pálsson, P.C.W. Holdsworth and B. Hjörvarsson, *Emergent tri-criticality in magnetic metamaterials*, *Phys. Rev. B* **107** (2023) 184409. doi: [10.1103/PhysRevB.107.184409](https://doi.org/10.1103/PhysRevB.107.184409)
41. H. Chamati and E. Korutcheva, *Critical dynamics in confined systems with quenched random impurities*, *Phys. Rev. B* **77** (2008) 184416 (7 pages).

42. H. Chamati and S. Romano, *Topological transitions in two-dimensional lattice models of liquid crystals*, Phys. Rev. E **77** (2008) 051704 (7 pages).
- 42.1. R.L.C. Vink, *The isotropic-to-nematic transition in a two-dimensional fluid of hard needles: a finite-size scaling study*, Eur. Phys. J. B **72** (2009) 225.
- 42.2. J.M. Fish and R.L.C. Vink, *Isotropic-to-nematic transition in confined liquid crystals: An essentially nonuniversal phenomenon*, Phys. Rev. E **81** (2010) 021705.
- 42.3. N.G. Almarza, C. Martín, E. Lomba, *Phase behavior of the confined Lebwohl-Lasher model*, Phys. Rev. E **82** (2010) 011140.
- 42.4. R. Shekhar, J.K. Whitmer, R. Malshe, J.A. Moreno-Razo, T.F. Roberts and J.J. de Pablo, *Isotropic-nematic phase transition in the Lebwohl-Lasher model from density of states simulations*, J. Chem. Phys. **136** (2012) 234503.
- 42.5. J.P.R. González and G. Cinacchi, *Phase behavior of hard circular arcs*, Phys. Rev. E **104** (2021) 054604.
43. H. Chamati, *Finite-size effects in the spherical model of finite thickness*, J. Phys. A: Math. Theor. **41** (2008) 375002 (22 pages).
- 43.1. D. Dantchev and D. Grüneberg, *Casimir force in $O(n)$ systems with a diffuse interface*, Phys. Rev. E **79** (2009) 04110.
- 43.2. G.-Z. Su, C.-J. Ou, A. Q.-P. Wang and J.-C. Chen, *Finite-size effects in a D -dimensional ideal Fermi gas*, Chin. Phys. B **18** (2009) 5189.
- 43.3. B. Kastening and V. Dohm, *Finite-size effects in film geometry with nonperiodic boundary conditions: Gaussian model and renormalization-group theory at fixed dimension*, Phys. Rev. E **81** (2010) 061106.
- 43.4. X.-G. He, F.-D. Men and Q.-M. Wei, *Thermodynamic properties of weakly interacting Fermi gas in finite size space*, J. At. Mol. Phys. **29** (2012) 913–918.
- 43.5. A. Mendoza-Coto, R. Díaz-Méndez, *Asymptotic dynamics of a frustrated model with spherical constraint*, J. Magn. Magn. Mater. **345** (2013) 111;
- 43.6. Du-Qi, *Boundary effects of Bose-Einstein condensation in a three-dimensional harmonic trap*, Acta Phys. Sin. **63** (2014) 170501.
- 43.7. F. Schmidt, *Der thermodynamische Casimir-Effekt mit symmetrieerhaltenden und symmetriebrechenden Randbedingungen*, Universität Duisburg-Essen, Germany, 2014.
- 43.8. S. Wald and M. Henkel, *Quantum phase transition in the spin-anisotropic quantum spherical model*, J. Stat. Mech. (2015) P07006.
- 43.9. E. S. Pisanova and S. I. Ivanov, *Non-universal critical properties of the ferromagnetic mean spherical model with long-range interaction*, Bul. Chem. Commun. **47**, SI B (2015) 269.
- 43.10. H.W. Diehl and S. B. Rutkevich, *Fluctuation-induced forces in confined ideal and imperfect Bose gases*, Phys. Rev. E **95** (2017) 062112.
- 43.11. M.V.S. Santos, J.B. da Silva, M.M. Leite, *Modern finite-size criticality: Dirichlet and Neumann boundary conditions*, Eur. Phys. J. Plus. **134** (2019) 4.
- 43.12. D.M. Dantchev and S. Dietrich, *Critical Casimir Effect: Exact Results*, Phys. Rep. **1005** (2023) 1. doi: 10.1016/j.physrep.2022.12.004
- 43.13. M. Henkel, *Non-equilibrium relaxations: ageing and finite-size effects*, Condens. Matt.

Phys. **26** (2023) 13501, doi: [10.5488/CMP.26.13501](https://doi.org/10.5488/CMP.26.13501).

44. N. Papanicolaou and H. Chamati, *Diffusion of a vacancy on Fe(100): A molecular-dynamics study*, Comput. Mater. Sci. **44** (2009) 1366–1370.
- 44.1. S.-R. Sun and D.-G. Xia, *The theoretical study of the cationic conductivity of AgBr*, Solid State Ionics **180** (2009) 663.
- 44.2. F. Wang, J.-M. Zhang, K.-W. Xu and V. Ji, *Atomistic simulation of the vacancy diffusion in (001) surface of MoTa alloy*, Appl. Surf. Sci. **255** (2009) 8809.
- 44.3. J.-R. Huang, “*The Molecular Dynamics Study on the Effect of Void Defects on the Mechanical Properties of Materials*” Master Thesis, National Chung Cheng University, Taiwan, 2009.
- 44.4. A. Irastorza, A. Luque, J. Aldazabal, J.M. Martínez-Esnaola and J. Gil Sevillano, *Estudio atómico de la propagación de grietas en monocristales de Fe- α agrietados*, Anales de Mecánica de la Fractura **26** (2009) 388.
- 44.5. C.Q. Wang, Y.X. Yang, Y.S. Zhang and Y. Jia, *A single vacancy diffusion near a Fe (110) surface: A molecular dynamics study*, Comput. Mater. Sci. **50** (2010) 291–294.
- 44.6. C. Wang, C. Tang, J. Su, Y. Zhang and Y. Jia, *Structural stabilities and diffusion of small Fe clusters on Fe (110) surface: a molecular dynamics study*, Appl. Surf. Sci. **257** (2011) 9329.
- 44.7. C. Wang, D. Chang, C. Tang, J. Su, Y. Zhang and Y. Jia, *Single adatom adsorption and diffusion on Fe surfaces*, Journal of Modern Physics **2** (2011) 1067.
- 44.8. L.K. Béland, P. Brommer, F. El-Mellouhi, J.-F. Joly, N. Mousseau, *Kinetic Activation Relaxation Technique*, Phys. Rev. E. **84** (2011) 046704.
- 44.9. C. Wang, Z. Qin, Y. Zhang and Y. Jia, *A molecular dynamics simulation of self-diffusion on Fe surfaces*, Appl. Surf. Sci. **258** (2012) 4294.
- 44.10. L. K. Béland, “*Étude de la formation et de l'évolution de nanostructures par méthodes Monte Carlo*” PhD thesis, Université de Montréal, 2013.
- 44.11. C. Li, D. Li, X. Tao, H. Chen and Y. Ouyang, *Molecular dynamics simulation of diffusion bonding of Al-Cu interface*, Modelling Simul. Mater. Sci. Eng. **22** (2014) 065013.
- 44.12. P. Brommer, L. K. Béland, J.-F. Joly, N. Mousseau, *Understanding long-time vacancy aggregation in iron: a kinetic Activation-Relaxation Technique study*, Phys. Rev. B **90** (2014) 134109.
- 44.13. P.E. Barnard, J.J. Terblans and H.C. Swart, *Surface orientation dependence of the activation energy of S diffusion in bcc Fe*, App. Surf. Sci. **356** (2015) 213.
- 44.14. T. Schuler, *Influence des amas lacunes – solutés sur le vieillissement des solutions solides de Fer- α* , PhD Thesis, Université Paris Sud XI (2015).
- 44.15. X. Li, W. Chu, T. Ma and Q. Wang, *Molecular dynamics simulation on diffusion welding between Cu and Al under different pressures and roughnesses*, Proceedings of the ASME Proceedings HT2016 (2016) HT2016-7380 - V002T13A004.
- 44.16. D. Gambino, D.G. Sangiovanni, B. Alling and I. A. Abrikosov, *Nonequilibrium ab initio molecular dynamics determination of Ti monovacancy migration rates in B1 TiN*, Phys. Rev. B **96** (2017) 104306.
- 44.17. A.C. Бабушкин, P.B. Селюков, “Влияние ионно-плазменной обработки на

- остаточные механические напряжения в тонких пленках хрома”, Труды ФТИАН, М., Наука **29** (2019) 112.
- 44.18. P. Wen, M.R. Tonks, S.R. Phillpot, D.E. Spearot, *The effect of stress on the migration of He gas bubbles under a thermal gradient in Fe by phase-field modeling*, Comput. Mater. Sci. **209** (2022) 111392.
- 44.19. A. Sauv e-Lacoursi re, S. Gelin, G. Adjanor, C. Domain, N. Mousseau, *Unexpected role of prefactors in defects diffusion: the case of vacancies in the 55Fe-28Ni-17Cr concentrated solid-solution alloys*, Acta Mater. **237** (2022) 118153.
- 44.20. Y. Shen, P. Wen, A.T. Ta, S.R. Phillpot and D.E. Spearot, *Migration velocities of intergranular He gas bubbles under thermal gradients in Fe by phase-field modeling*, J. Nucl. Mater. **585** (2023) 154606. doi: [10.1016/j.jnucmat.2023.154606](https://doi.org/10.1016/j.jnucmat.2023.154606)
45. H. W. Diehl and H. Chamati, *Dynamic critical behavior of model A in films: Zero-mode boundary conditions and expansion near four dimensions*, Phys. Rev. B **79** (2009) 104301 (23 pages).
- 45.1. B. Kastening and V. Dohm, *Finite-size effects in film geometry with nonperiodic boundary conditions: Gaussian model and renormalization-group theory at fixed dimension*, Phys. Rev. E **81** (2010) 061106.
- 45.2. J. Rudnick, R. Zandi, A. Shackell and D. Abraham, *Boundary conditions and the critical Casimir force on an Ising model film: Exact results in one and two dimensions*, Phys. Rev. E **82** (2010) 041118.
- 45.3. F. Parisen Toldin and S. Dietrich, *Critical Casimir forces and adsorption profiles in the presence of a chemically structured substrate*, J. Stat. Mech. (2010) P11003.
- 45.4. E.V. Albano, M.A. Bab, G. Baglietto, R.A. Borzi, T.S. Grigera, E.S. Loscar, D.E. Rodr guez, M.L. Rubio Puzzo and G.P. Saracco, *Study of phase transitions from short-time non-equilibrium behaviour*, Rep. Prog. Phys. **74** (2011) 026501.
- 45.5. V. Dohm, *Critical free energy and Casimir forces in rectangular geometries*, Phys. Rev. B **84** (2011) 021108.
- 45.6. M.A. Shpot and Yu.M. Pis'mak, *Lifshitz-point correlation length exponents from the large- n expansion*, Nucl. Phys. B **862** (2012) 75.
- 45.7. B. Kastening, *Universal anisotropic finite-size critical behavior of the two-dimensional Ising model on a strip and of d -dimensional models on films*, Phys. Rev. E **86** (2012) 041105.
- 45.8. M. Tr ndle, “*Statics and dynamics of critical Casimir forces*”, Stuttgart University (2012).
- 45.9. M. Gross, “*Thermal fluctuations in non-ideal fluids with the Lattice Boltzmann method*”, PhD Thesis, Ruhr-Universit t Bochum, Germany (2012).
- 45.10. B. Kastening, *Anisotropy and universality: Critical Binder cumulant of the two-dimensional Ising model*, Phys. Rev. E **87** (2013) 044101.
- 45.11. O. A. Vasilyev, E. Eisenriegler and S. Dietrich, *Critical Casimir torques and forces acting on needles in two spatial dimensions*, Phys. Rev. E **88**, 012137 (2013) [29 pages].
- 45.12. M. Campostrini, A. Pelissetto and E. Vicari, *Finite-size scaling at quantum transitions*, Phys. Rev. B **89** (2014) 094516.

- 45.13. Z Usatenko and J Halun, *Ring polymer chains confined in a slit geometry of two parallel walls: the massive field theory approach*, J. Stat. Mech. (2017) 013303.
- 45.14. V. Dohm, *Crossover from low-temperature to high-temperature fluctuations: Universal and nonuniversal Casimir forces of isotropic and anisotropic systems*, Phys. Rev. E **97** (2018) 062128.
- 45.15. M. Gross, A. Gambassi, S. Dietrich, *Surface-induced non-equilibrium dynamics and critical Casimir forces for model B in film geometry*, Phys. Rev. E **98** (2018) 032103.
- 45.16. Ch.M. Rohwer, A. Squarcini, O. Vasilyev, S. Dietrich and M. Gross, *Ensemble dependence of critical Casimir forces in films with Dirichlet boundary conditions*, Phys. Rev. E **99** (2019) 062103.
- 45.17. M. Gross, C.M. Rohwer, S. Dietrich, *Dynamics of the critical Casimir force for a conserved order parameter after a critical quench*, Phys. Rev. E **100** (2019) 012114.
- 45.18. D. Rossini, E. Vicari, *Coherent and dissipative dynamics at quantum phase transitions*, Phys. Rep. **936** (2021) 1.
- 45.19. D.M. Dantchev and S. Dietrich, *Critical Casimir Effect: Exact Results*, Phys. Rep. **1005** (2023) 1. doi: [10.1016/j.physrep.2022.12.004](https://doi.org/10.1016/j.physrep.2022.12.004)
- 45.20. V. Dohm, *Multiparameter universality and intrinsic diversity of critical phenomena in weakly anisotropic systems*, Phys. Rev. E **108** (2023) 044149. doi: [10.1103/PhysRevE.108.044149](https://doi.org/10.1103/PhysRevE.108.044149)
46. H. Chamati and N. S. Tonchev, *Comment on ‘Quantum critical paraelectrics and the Casimir effect in time’*, eprint arXiv:0903.5229 [cond-mat.stat-mech] (2009).
- 46.1. L. Pálová, P. Chandra and P. Coleman, *Erratum: Quantum critical paraelectrics and the Casimir effect in time*, Phys. Rev. B **84** (2011) 119910.
47. X. Шамати, *Ефекти на взаимодействието и анизотропията върху критичното поведение на крайно-размерни системи*, автореферат на дисертация за получаване на научната степен доктор на физическите науки, 2010.
- 47.1. Д.А. Димитров, *”Физика на топлината и приложението и в строителството”*. Херон Прес, София, 2011.
- 47.2. E.S. Pisanova and I.Kr. Ivanov, *Universal Critical Amplitudes in a Quantum Spherical Model: Entropy, Internal Energy and Specific Heat*, AIP Conf. Proc. **2075** (2019) 020010.
48. H. Chamati and S. Romano, *Interaction anisotropy and random impurities effects on the critical behaviour of ferromagnets*, J. Phys.: Conf. Ser. **253** (2010) 012011 (11 pages).
49. H. Chamati, *Molecular dynamics study of the thermal properties of nickel*, J. Mater. Sci. Tech. **19** (2011) 42-51.
- 49.1. N.T. Dung and N.C. Cuong, *Some Factors Affected on Structure, Mechanical of Ni Bulk*, Adv. Mater. Phys. Chem., **8** (2018) 84337.
50. H. Chamati and N. S. Tonchev, *Quantum critical scaling and the Gross–Neveu model in 2 + 1 dimensions*, Europhys. Lett. (EPL) **95** (2011) 40005 (6 pages).
- 50.1. A. Rançon, O. Kodio, N. Dupuis, P. Lecheminant, *Thermodynamics in the vicinity of a relativistic quantum critical point in 2 + 1 dimensions*, Phys. Rev. E **88** (2013) 012113.
- 50.2. D. Dantchev, J. Bergknoff and J. Rudnick, *Casimir force in the $O(n \rightarrow \infty)$ model with free boundary conditions*, Phys. Rev. E **89** (2014) 042116.

- 50.3. L.M. Abreu, F.C. Khanna, A.P.C. Malbouisson, J.M.C. Malbouisson and A.E. Santana, *Finite-size effects on the phase transition in a four- and six-fermion interaction model*, Phys. Lett. A **378** (2014) 2597.
- 50.4. D.M. Dantchev and S. Dietrich, *Critical Casimir Effect: Exact Results*, Phys. Rep. **1005** (2023) 1. doi: [10.1016/j.physrep.2022.12.004](https://doi.org/10.1016/j.physrep.2022.12.004)
51. H. Chamati and K. Gaminchev, *Crystallization of nickel nanoclusters by molecular dynamics*, J. Phys. Conf. Ser. **398** (2012) 012042.
- 51.1. Y. Yang, H. Zhang and J.F. Douglas, *Origin and Nature of Spontaneous Shape Fluctuations in “Small” Nanoparticles*, ACS Nano **8** (2014) 7465
- 51.2. N.T. Dung, N.C. Cuong and P.K. Hung, *The influence of number particle on microstructure and crystallization of nickel bulk models*, J. Sci. HNUE **59** (2014) 165.
- 51.3. Y. Yang, “*Effects of Size and Coalescence on the Interfacial Dynamics of Nanoparticles: A Molecular Dynamics Study*”, PhD Thesis, University of Alberta, Canada, 2015.
- 51.4. V.M. Samsonov, S.A. Vasilyev, I.V. Talyzin and Yu.A. Ryzhkov, *On reasons for the hysteresis of melting and crystallization of nanoparticles*, JETP Letters **103** (2016) 94.
- 51.5. V.M. Samsonov, S.A. Vasilyev, I.V. Talyzin, and A.G. Bembel, *Structural transitions in metal nanoparticles in the course of melting and crystallization hysteresis: molecular dynamics simulation*, Proceedings of the Ninth International Conference on Material Technologies and Modeling (MMT-2016), July 25 - 29 2016, Ariel, Israel, pp 46-66.
- 51.6. F.A. Celik and A.K. Yildiz, *A study to investigate phase transitions and nucleation kinetics of nickel and copper*, Mod. Phys. Lett. B **30** (2016) 1650129.
- 51.7. Т.И. Владимирович, *Молекулярно-динамическое исследование термодинамических и кинетических аспектов плавления и кристаллизации металлических наночастиц*, диссертация на соискание ученой степени доктора физико-математических наук, Тверской государственной университет, 2019.
- 51.8. A. van Teijlingen, S.A. Davis and S. Hall, *Size-dependent melting point depression of nickel nanoparticles*, Nanoscale Adv. **2** (2020) 2347.
- 51.9. Y. Yang, M. Liu, J. Du, W. Zhang, S. Zhou, W. Ren, Q. Zhou, L. Shi, *Construction of graphene network in Ni matrix composites: A molecular dynamics study of densification process*, Carbon. **191** (2022) 55.
- 51.10. M.P. Samantaray and S.S. Sarangi, *Melting and Crystallization of Free Copper and Nickel Nanoclusters using Molecular Dynamics Simulations*, Int. J. Nanosci. **22** (2023) 2250052. doi: [10.1142/S0219581X22500521](https://doi.org/10.1142/S0219581X22500521)
52. H. Chamati, *Theory of phase transitions: From magnets to biomembranes*, Advances in Planar Lipid Bilayers and Liposomes, **17**, eds. A. Iglič and J. Genova, Academic Press (2013) 237–286; (**Invited Chapter**).
- 52.1. P.B. Santhosh, S.I. Kiryakova, J.L. Genova, N.P. Ulrih, *Influence of iron oxide nanoparticles on bending elasticity and bilayer fluidity of phosphatidylcholine liposomal membranes*, Colloids Surf. Physicochem. Eng. Asp. **460** (2014) 248.
- 52.2. P. B. Santhosh, “*Effects of iron oxide (Fe₂O₃) nanoparticles on the physical properties of liposomes*”, PhD Thesis, University of Ljubljana (2014).
- 52.3. T. Banerjee and A. Basu, *Thermal fluctuations and stiffening of heterogeneous fluid*

- membranes, Phys. Rev. E **91** (2015) 012119.
- 52.4. T.M. Mishonov, M. Andreoni, N.Zh. Mihaylova and A.M. Varonov, *Determination of effective magnon mass of neodymium magnet by temperature dependence of spontaneous magnetization*, Eur. J. Phys. **42** (2021) 045502.
- 52.5. A.A. Kabanov, E.O. Bukhteeva and V.A. Blatov, *A topological approach to reconstructive solid-state transformations and its application for generation of new carbon allotropes*, Acta Cryst. B **79** (2023) 198. doi: [10.1107/S205252062300255X](https://doi.org/10.1107/S205252062300255X)
- 52.6. Z. Slavkova, D. Yancheva and J. Genova, *Phase behaviour and structural properties of SOPC model lipid system in a sucrose solution*, Spectrochim. Acta A **304** (2024) 123287. doi: [10.1016/j.saa.2023.123287](https://doi.org/10.1016/j.saa.2023.123287)
53. H. Chamati and S. Romano, *Nematic order by thermal disorder in a three-dimensional lattice-spin model with dipolar-like interactions*, Phys. Rev. E **90** (2014) 022506.
- 53.1. D. Schildknecht, M. Schütt, L.J. Heyderman and P.M. Derlet, *Continuous ground-state degeneracy of classical dipoles on regular lattices*, Phys. Rev. B **100** (2019) 014426.
- 53.2. D. Schildknecht, “*Continuous dipolar moments on regular lattices: a combined Monte Carlo and group theoretical treatment*”, PhD Thesis, ETH Zurich, 2019.
- 53.3. Y. Yonetani, *Strange layer structure of dipolar spins formed on the spin-ice lattice*, Chem. Phys. Lett. **817** (2023) 140406. doi: [10.1016/j.cplett.2023.140406](https://doi.org/10.1016/j.cplett.2023.140406)
- 53.4. Y. Yonetani, *Unsolved problem of long-range interactions: dipolar spin-ice study*, J. Phys.: Condens. Matter **36** (2024) 175401. doi: [10.1088/1361-648X/ad1ca6](https://doi.org/10.1088/1361-648X/ad1ca6)
54. K. Gaminchev and H. Chamati, *Dynamic stability of Fe under high pressure*, J. Phys. Conf. Ser. **558** (2014) 012013.
- 54.1. R. Hrubiak, Y. Meng and G. Shen, *Experimental evidence of a body centered cubic iron at the Earth’s core condition*, arXiv eprints, arXiv:1804.05109 [physics.geo-ph] (2018).
- 54.2. H. Mei, F. Wang, J. Li and L. Kong, *Elastic anisotropy and its temperature dependence for cubic crystals revealed by molecular dynamics simulations*, Model. Simul. Mater. Sci. Eng. **31** (2023) 065013. doi: [10.1088/1361-651X/ace541](https://doi.org/10.1088/1361-651X/ace541)
- 54.3. A. Sani, G.J. Ibeh and O.O. Ige, *Assessment of elemental composition of kaolin from Kankara and Dutsinma mine sites, Katsina State, Nigeria*, Nigerian J. Sci. Eng. Infrastruct. **1** (2023) 31. doi: [10.61352/2023AT03](https://doi.org/10.61352/2023AT03)
55. H. Chamati and S. Romano, *Classical lattice spin models involving singular interactions isotropic in spin space*, Phys. Rev. E **92** (2015) 012013.
56. H. Tonchev, A. Donkov and H. Chamati, *Interaction of a single mode field cavity with the XY Model: Energy spectrum*, J. Phys. Conf. Ser. **682** (2016) 012032.
- 56.1. M. Pandit, S. Das, S.S. Roy, H.S. Dhar, U. Sen, *Effects of cavity–cavity interaction on the entanglement dynamics of a generalized double Jaynes–Cummings model*, J. Phys. B At. Mol. Opt. Phys. **51** (2018) 045501.
57. H. Chamati, R. Trobec and J.I. Pavlič, *Peculiarities in the study of pre-formed DSPC lipid vesicles by coarse-grain molecular dynamics*, Adv. Biomembr. Lipid Self-Assem. **23** (2016) 169–185.
58. H. Chamati and S. Romano, *Nematic order in a simple-cubic lattice-spin model with full-ranged dipolar interactions*, Phys. Rev. E **93** (2016) 052147.

- 58.1. D. Schildknecht, M. Schütt, L.J. Heyderman and P.M. Derlet, *Continuous ground-state degeneracy of classical dipoles on regular lattices*, Phys. Rev. B **100** (2019) 014426.
- 58.2. D. Schildknecht, “*Continuous dipolar moments on regular lattices: a combined Monte Carlo and group theoretical treatment*”, PhD Thesis, ETH Zurich, 2019.
- 58.3. V. Russier, J.-J. Alonso, *Phase diagram of a three-dimensional dipolar Ising model with textured Ising axes*, J. Phys. Condens. Matter **32** (2020) 135804.
- 58.4. J.J. Alonso, B. Allés and V. Russier, *Magnetic ordering of random dense packings of freely rotating dipoles*, Phys. Rev. B **102** (2020) 184423.
- 58.5. Y. Yonetani, *Strange layer structure of dipolar spins formed on the spin-ice lattice*, Chem. Phys. Lett. **817** (2023) 140406. doi: [10.1016/j.cplett.2023.140406](https://doi.org/10.1016/j.cplett.2023.140406)
- 58.6. Y. Yonetani, *Unsolved problem of long-range interactions: dipolar spin-ice study*, J. Phys.: Condens. Matter **36** (2024) 175401. doi: [10.1088/1361-648X/ad1ca6](https://doi.org/10.1088/1361-648X/ad1ca6)
59. H. Tonchev, A. Donkov and H. Chamati, *Energy spectra of a spin- $\frac{1}{2}$ XY spin molecule interacting with a single mode field cavity: Numerical study*, J. Phys.: Conf. Ser. **764** (2016) 012017.
60. Z. Usatenko, P. Kuterba, H. Chamati and J. Halun, *Investigation of ring polymers in confined geometries*, J. Phys.: Conf. Ser. **794** (2017) 012002.
61. M. Georgiev and H. Chamati, *Spin multipole moments as collective quantum phenomena*, J. Phys.: Conf. Ser. **794** (2017) 012026.
- 61.1. T.M. Mishonov and A.M. Varonov, *Scientific instrument for creation of effective Cooper pair mass spectroscopy*, J. Phys.: Conf. Ser. **1762** (2021) 012013
62. Z. Usatenko, P. Kuterba, H. Chamati and P. Romeis, *Linear and ring polymers in confined geometries*, EPJ Special Topics **226** (2017) 651.
- 62.1. M. Bachmann, E. Bittner, N. G. Fytas, R. Kenna, M. Weigel and J. Zierenberg, *Recent advances in phase transitions and critical phenomena*, EPJ Special Topics **226** (2017) 533.
- 62.2. X. Zhou, L. Liu, J. Chen, L. Zhang, *Unusual conformations of semiflexible ring polymers confined in two parallel surfaces*, Polymer **157** (2018) 180.
- 62.3. V.K. Dhote, K. Dhote, S.P. Pandey, T. Shukla, R. Maheshwari, D.K. Mishra, R.K. Tekade, *Fundamentals of Polymers Science Applied in Pharmaceutical Product Development*, in: Basic Fundam. Drug Deliv., Elsevier, 2019: pp. 85–112.
- 62.4. P. Castro-Villarreal and J. E. Ramírez, *Stochastic curvature of enclosed semiflexible polymers*, Phys. Rev. E **100** (2019) 012503
- 62.5. M. Zarif and A. Naji, *Confinement-induced alternating interactions between inclusions in an active fluid*, eprint arXiv:1912.10843 [cond-mat.soft] (2019).
- 62.6. X. Zhou, J. Wu and L. Zhang, *Ordered aggregation of semiflexible ring-linear blends in ellipsoidal confinement*, Polymer **197** (2020) 122494.
63. M. Georgiev and H. Chamati, *Magnetic excitations in the trimeric compounds $A_3Cu_3(PO_4)_4$ ($A = Ca, Sr, Pb$)*, C.R. Acad. Bulg. Sci. **72** (2019) 29.
- 63.1. T.M. Mishonov and A.M. Varonov, *Scientific instrument for creation of effective Cooper pair mass spectroscopy*, J. Phys.: Conf. Ser. **1762** (2021) 012013
64. M. Georgiev and H. Chamati, *Magnetic Exchange in Spin Clusters*, AIP Conf. Proc. **2075** (2019) 020004.

- 64.1. T.M. Mishonov and A.M. Varonov, *Scientific instrument for creation of effective Cooper pair mass spectroscopy*, J. Phys.: Conf. Ser. **1762** (2021) 012013
65. H. Chamati and D. Shopova, *Ferrimagnetism in a Two-sublattice Bilinearly Coupled Heisenberg Model*. AIP Conf. Proc. **2075** (2019) 020007.
- 65.1. J.A. Ramos-Guivar, C.A. Tamanaha-Vegas, F.J. Litterst and E.C. Passamani, *Magnetic Simulations of Core-Shell Ferromagnetic Bi-Magnetic Nanoparticles: The Influence of Antiferromagnetic Interfacial Exchange*, Nanomaterials **11** (2021) 1381
- 65.2. A. El Ghazrani, K. Htoutou, S. Harir and L.B. Drissi, *Compensation behavior in (Fe-Ni) core-shell nanostructures: Heisenberg Monte Carlo simulations*, J. Stat. Mech. (2023) 033209. doi: [10.1088/1742-5468/acc320](https://doi.org/10.1088/1742-5468/acc320)
66. H. Chamati and D. Shopova, *Ferrimagnetism in a system of two antiferromagnetically coupled Heisenberg models*, J. Phys. Conf. Ser. **1186** (2019) 012002.
67. H. Tonchev, A. A. Donkov and H. Chamati, *Energy spectra of a spin- $\frac{1}{2}$ XY spin molecule interacting with a single mode field cavity*, J. Phys. Conf. Ser. **1186** (2019) 012022.
68. J. Genova, Z. Slavkova, H. Chamati and M. Petrov, *Gel – liquid crystal phase transition in dry and hydrated SOPC phospholipid studied by Differential Scanning Calorimetry*, Phase Transit. **92** (2019) 323-333.
- 68.1. M. Souce, A. Tfayli, V. Rosilio, I. Nicolis and A. Kasselouri, *Photosensitizers incorporation in SOPC films at different hydration levels*, Biochim. Biophys. Acta, Biomembr. **1865** (2023) 184077. doi: [10.1016/j.bbmem.2022.184077](https://doi.org/10.1016/j.bbmem.2022.184077)
69. M. Georgiev and H. Chamati, *Magnetic excitations in molecular magnets with complex bridges: The tetrahedral molecule Ni₄Mo₁₂*, Eur. Phys. J. B **92** (2019) 93.
- 69.1. T.M. Mishonov and A.M. Varonov, *Scientific instrument for creation of effective Cooper pair mass spectroscopy*, J. Phys.: Conf. Ser. **1762** (2021) 012013
- 69.2. T.M. Mishonov, M. Andreoni, N.Zh. Mihaylova and A.M. Varonov, *Determination of effective magnon mass of neodymium magnet by temperature dependence of spontaneous magnetization*, Eur. J. Phys. **42** (2021) 045502.
70. J. Genova, H. Chamati, Z. Slavkova and M. Petrov, *Differential Scanning Calorimetric Study of the Effect of Cholesterol on the Thermotropic Phase Behavior of the Phospholipid 1-Stearoyl-2-Oleoyl-sn-Glycero-3-Phosphocholine*, J. Surfact. Deterg. **22** (2019) 1929.
- 70.1. B. Uhl, *Development and characterization of nanovesicles and colloidosomes for small-molecule delivery*, Master thesis, Kansas State University (2019).
- 70.2. D.M.B.-L. Pez, M.F. Heredia-Moyano, R.W. Pachacama-Choca, N.C. Moreta-Morocho, *Comportamiento Termotrópico de los lípidos, revisión bibliográfica*, Polo del Conocimiento. **7** (2022) 878.
71. J. Genova, H. Chamati, M. Petrov, *Physico-chemical characterizations of lipid membranes in presence of cholesterol*, Adv. Biomembr. Lipid Self-Assem. **31** (2020) 1.
- 71.1. N. Ivanova, *The influence of the hydration number in a mixed lipid bilayer with cholesterol*, J Chem. Technol. Metall. **59** (2024) 279. doi: [10.59957/jctm.v59.12.2024.5](https://doi.org/10.59957/jctm.v59.12.2024.5)
72. M. Georgiev and H. Chamati, *Magnetization steps in the molecular magnet Ni₄Mo₁₂ revealed by complex exchange bridges*, Phys. Rev. B. **101** (2020) 094427.

- 72.1. T.M. Mishonov and A.M. Varonov, *Scientific instrument for creation of effective Cooper pair mass spectroscopy*, J. Phys.: Conf. Ser. **1762** (2021) 012013
- 72.2. T.M. Mishonov, M. Andreoni, N.Zh. Mihaylova and A.M. Varonov, *Determination of effective magnon mass of neodymium magnet by temperature dependence of spontaneous magnetization*, Eur. J. Phys. **42** (2021) 045502.
- 72.3. J.I. Norambuena Leiva, E.A.Cortés. Estay, E.S. Morell and J.M. Florez, *On the Magnetization and Entanglement Plateaus in One-Dimensional Confined Molecular Magnets*, Magnetochemistry **10** (2024) 10. doi: [10.3390/magnetochemistry10020010](https://doi.org/10.3390/magnetochemistry10020010)
73. S. Varbev, I. Boradjiev, H. Tonchev and H. Chamati, *Dynamics of a periodic XY chain coupled to a photon mode*, Eur. Phys. J. B **93** (2020) 131.
74. Z. Slavkova and J. Genova, H. Chamati, M. Koroleva and D. Yancheva, *Influence of hydrophobic Au nanoparticles on SOPC lipid model systems*, Colloids Surf. A Physicochem. Eng. Asp. **603** (2020) 125090.
- 74.1. G. Niu, F. Liu, Y. Yang, Y. Fu and W. Wang, *Synthesis of penta-fold twinned Pd-Au-Pd segmental nanorods for in situ monitoring catalytic reaction*, Colloids Surf. A **607** (2020) 125490.
- 74.2. M. Lemaalem, N. Hadrioui, S.E. Fassi, A. Derouiche, H. Ridouane, *An efficient approach to study membrane nano-inclusions: from the complex biological world to a simple representation*, RSC Adv. **11** (2021) 10962.
- 74.3. P.B. Santhosh, *Gold nanoparticles: Phospholipid membrane interactions*, Adv. Biomembr. Lipid Self-Assem. **34** (2021) 173.
75. J. Genova, H. Chamati and M. Petrov, *Study of SOPC with embedded pristine and amide-functionalized single wall carbon nanotubes by DSC and FT-IR spectroscopy*, Colloids Surf. A Physicochem. Eng. Asp. **603** (2020) 125261.
- 75.1. Z.-P. Li, A.-C. Huang, Y. Tang, H.-L. Zhou, Y.-C. Liu, C.-F. Huang, C.-M. Shu, Z.-X. Xing, J.-C. Jiang, *Thermokinetic prediction and safety evaluation for toluene sulfonation process and product using calorimetric technology*, J. Therm. Anal. Calorim. **147** (2022) 12177. doi: [10.1007/s10973-022-11384-7](https://doi.org/10.1007/s10973-022-11384-7).
- 75.2. J. Zhao, J. Sun, K. Zhang, S. Wang, W. Ding and Z. Li, *Effect of Positively Charged Lipids (DOTAP) on the Insertion of Carbon Nanotubes into Liposomes and Separation Performance of Thin-Film Nanocomposite Membranes*, Separations **11** (2024) 75. doi: [10.20944/preprints202401.0120.v1](https://doi.org/10.20944/preprints202401.0120.v1)
76. Z. Slavkova, N. Drinova, H. Chamati and J. Genova, *Influence of sucrose on the phase behaviour of phospholipid model systems*, J. Phys. Conf. Ser. **1762** (2021) 012012.
77. S. Varbev, I. Boradjiev and H. Chamati, *Single-photon generation of entangled triplet state in an atomic spin dimer*, J. Phys. Conf. Ser. **1762** (2021) 012015.
78. S. Varbev, I. Boradjiev, R. Kamburova and H. Chamati, *Interaction of solitons with a qubit in an anisotropic Heisenberg spin chain with first and second-neighbor interactions*, J. Phys. Conf. Ser. **1762** (2021) 012018.
79. M. Georgiev and H. Chamati, *Origin of the magnetic exchange in insulators: Localized vs. delocalized electrons*, J. Phys. Conf. Ser. **1762** (2021) 012019.
80. M. Georgiev and H. Chamati, *Molecular magnetism in the multi-configurational self-*

- consistent field method*, J. Phys. Condens. Matter **33** (2021) 075803.
- 80.1. T.M. Mishonov and A.M. Varonov, *Scientific instrument for creation of effective Cooper pair mass spectroscopy*, J. Phys.: Conf. Ser. **1762** (2021) 012013
- 80.2. T.M. Mishonov, M. Andreoni, N.Zh. Mihaylova and A.M. Varonov, *Determination of effective magnon mass of neodymium magnet by temperature dependence of spontaneous magnetization*, Eur. J. Phys. **42** (2021) 045502.
- 80.3. A. Obeidat, B. Aladerah, M.-K. Qaseer, *Computational Study of Magnetic Properties of L_{10} Ordered FeNi and FePt Binary Alloys*, J. Mag. Mag. Mater. **559** (2022) 169501.
- 81.** H. Chamati, *Scaling behavior of confined $O(n)$ systems involving long-range interaction*, J. Theor. Appl. Mech. (Bulgaria) **51** (2021) 108.
- 81.1. E.S. Pisanova, *On the classical critical behavior of the specific heat capacity of a model of structural phase transitions with a long-range interaction*, J. Phys. Conf. Ser. **2436** (2023) 012012. doi: [10.1088/1742-6596/2436/1/012012](https://doi.org/10.1088/1742-6596/2436/1/012012)
- 82.** M. Georgiev and H. Chamati, *An exchange mechanism for the magnetic behavior of Er^{3+} complexes*, Molecules **26** (2021) 4922.
- 83.** N. Ivanova, J. Genova and H. Chamati, *Physical properties of SOPC lipid membranes containing cholesterol by molecular dynamics simulation*, Adv. Biomembr. Lipid Self-Assem. **34** (2021) 1.
- 83.1. A. Zhukov and V.I. Popov, *Eukaryotic Cell Membranes: Structure, Composition, Research Methods and Computational Modelling*, Int. J. Mol. Sci. **24** (2023) 11226. doi: [10.3390/ijms241311226](https://doi.org/10.3390/ijms241311226)
- 84.** E.L. Angelova and H. Chamati, *Dynamic simulation of energy spectrum of phonons in magnetic bcc iron*, C. R. Acad. Bulg. Sci. **75** (2022) 197.
- 85.** S. Varbev, I. Boradjiev, R. Kamburova, and H. Chamati, *Control of a qubit state by a soliton propagating through a Heisenberg spin chain*, Phys. Rev. E. **105** (2022) 034207.
- 85.1. N. Zidan, A. Redwan, T. El-Shahat, M. Qasymeh, M. Abdel-Aty, *Entanglement and teleportation in thermal states of spin chains with nonlinear coupling*, Alex. Eng. J. **100** (2024) 260. doi: [10.1016/j.aej.2024.05.026](https://doi.org/10.1016/j.aej.2024.05.026)
- 86.** Z. Slavkova, J. Genova, H. Chamati, V. Boev and D. Yancheva, *Silver nanoparticles synthesis and their effect on the SOPC lipid structure*, J. Phys. Conf. Ser. **2240** (2022) 012019.
- 86.1. A.K. Singh and S.P. Singh, *Molecular scale insights from NMR studies of hybrid systems formed via doping silver QDs in 6CHBT liquid crystal: a quantitative investigation of their optoelectronic properties*, Liquid Crystals **50** (2023) 2019. doi: [10.1080/02678292.2023.2227979](https://doi.org/10.1080/02678292.2023.2227979).
- 87.** P. B. Santhosh, J. Genova and H. Chamati, *Green synthesis of gold nanoparticles: An eco-friendly approach*, Chemistry **4** (2022) 345.
- 87.1. I.H. Ifijen, M. Maliki and B. Anegebe, *Synthesis, Photocatalytic Degradation and Antibacterial Properties of Selenium or Silver Doped Zinc Oxide Nanoparticles: A Detailed Review*, OpenNano **8** (2022) 1000822. doi: [10.1016/j.onano.2022.1000822](https://doi.org/10.1016/j.onano.2022.1000822).
- 87.2. A. Bemidinezhad, F. Mirzavi and H. Gholamhosseinian, F. Gheybi, M. Soukhtanloo, *Green synthesis of glucose-coated gold nanoparticles for improving radiosensitivity in human U87 glioblastoma cell line*, Nanomed. J. **9** (2022) 328.

- doi: [10.22038/nmj.2022.67425.1714](https://doi.org/10.22038/nmj.2022.67425.1714)
- 87.3. N. Ertas Onmaz, D. Demirezen Yilmaz, K. Imre, A. Morar, C. Gungor, S. Yilmaz, D.A. Gundog, A. Dishan, V. Herman, G. Gungor, *Green Synthesis of Gold Nanoflowers Using Rosmarinus officinalis and Helichrysum italicum Extracts: Comparative Studies of Their Antimicrobial and Antibiofilm Activities*, *Antibiotics*. **11** (2022) 1466.
doi: [10.3390/antibiotics11111466](https://doi.org/10.3390/antibiotics11111466)
- 87.4. A. Timoszyk and R. Grochowalska, *Mechanism and Antibacterial Activity of Gold Nanoparticles (AuNPs) Functionalized with Natural Compounds from Plants*, *Pharmaceutics* **14** (2022) 2599. doi: [10.3390/pharmaceutics14122599](https://doi.org/10.3390/pharmaceutics14122599)
- 87.5. J.M. Chojniak-Gronek, Ł. Jałowicki and G.A. Płaza, *Bioeffects of silver nanoparticles (AgNPs) synthesized by producer of biosurfactant Bacillus subtilis strain: in vitro cytotoxicity, antioxidant properties and metabolic activities of mammalian cells*, *Archives of Environmental Protection* **48** (2022) 45. doi: [10.24425/aep.2022.143708](https://doi.org/10.24425/aep.2022.143708)
- 87.6. A. Sahoo, K.B. Satapathy, S.K. Sahoo, G.K. Panigrahi, *Microbased biorefinery for gold nanoparticle production: recent advancements, applications and future aspects*, *Prep. Biochem. Biotechnol.* **53** (2023) 579. doi: [10.1080/10826068.2022.2122065](https://doi.org/10.1080/10826068.2022.2122065)
- 87.7. T. Trakoolwilaiwan, “*Development of Thermochromic Lateral Flow Assay for Sensitive Detection*”, PhD Thesis, University College London, UK, 2023.
<https://discovery.ucl.ac.uk/id/eprint/10182444/>
- 87.8. S.S. Asl, F. Tafvizi and H. Noorbazargan, *Biogenic synthesis of gold nanoparticles using Satureja rechingeri Jamzad: a potential anticancer agent against cisplatin-resistant A2780CP ovarian cancer cells*, *Environ. Sci. Pollut. Res.* **30** (2023) 20168.
doi: [10.1007/s11356-022-23507-6](https://doi.org/10.1007/s11356-022-23507-6)
- 87.9. L.R. Singha, S. Das and M.K. Kumar, *Plant-derived Anti-arthritis Nanomedicines for Effective Therapy in the Management of Inflammatory Diseases*, *Pharmacognosy Reviews* **17** (2023) 104. doi: [10.5530/097627870287](https://doi.org/10.5530/097627870287)
- 87.10. Y. Yue, Y. Yokota, T. Uchihashi, *Biosynthesis of highly branched gold nanoparticles through structural engineering of fatty acids*, *iScience* **26** (2023) 105864.
doi: [10.1016/j.isci.2022.105864](https://doi.org/10.1016/j.isci.2022.105864)
- 87.11. R.C. Sandulovici, M. Carmen-Marinela, A. Grigoriu, C.A. Moldovan, M. Savin, V. Ordeanu, S.N. Voicu, D. Cord, G.M. Costache, M.L. Galatanu, M. Popescu, I. Sarbu, E. Mati, L.E. Ionescu, R. Neagu, V. Țucureanu, R.M. Claudia, I. Mihalache, C. Romanitan, A. Piperea-Sianu, A. Boldeiu, O. Brincoveanu, C.E. Manea, B. Firtat, G.S. Muscalu, D. Dragomir, *The Physicochemical and Antimicrobial Properties of Silver/Gold Nanoparticles Obtained by “Green Synthesis” from Willow Bark and Their Formulations as Potential Innovative Pharmaceutical Substances*, *Pharmaceutics* **16** (2023) 48.
doi: [10.3390/ph16010048](https://doi.org/10.3390/ph16010048).
- 87.12. Z. Ashikbayeva, A. Bekmurzayeva, Z. Myrkhievaya, N. Assylbekova, T.Sh. Atabaev, D. Tosi, *Green-synthesized gold nanoparticle-based optical fiber ball resonator biosensor for cancer biomarker detection*, *Opt. Laser Technol.* **161** (2023) 109136.
doi: [10.1016/j.optlastec.2023.109136](https://doi.org/10.1016/j.optlastec.2023.109136).
- 87.13. A.P. Ingle, P. Ingle, M. Wypij, P. Golinska and M. Rai, “*Myconanotechnology in Food*

- Preservation and Enhancement of Shelf-life of Agri-food and Fruits*”, in: Myconanotechnology, pp 228 (CRC Press, Boca Raton, 2023). doi: [10.1201/9781003327356](https://doi.org/10.1201/9781003327356)
- 87.14. P.K. Tyagi, D. Gupta, S. Tyagi and R. Yadav, *Evaluation the toxicity of gold nanoparticles derived fungal biomass and plant materials through chemical and green methodologies*, Biomass Conv. Bioref. **xxx** (2023) xxx. doi: [10.1007/s13399-023-04100-4](https://doi.org/10.1007/s13399-023-04100-4).
- 87.15. G. Kasi, S. Thanakkasaranee, P. Seesuriyachan, P. Rachtanapun, *One-pot synthesis of gold nanoparticles using Pandanus amaryllifolius leaf extract and their antibacterial, antioxidant, anticancer, and ecotoxicity assessment*, Biocatal. Agric. Biotechnol. **50** (2023) 102695. doi: [10.1016/j.bcab.2023.102695](https://doi.org/10.1016/j.bcab.2023.102695).
- 87.16. F.M.P. Tonelli, Ch.S. Silva, V.M.S. Delgado and F.C.P. Tonelli, *Algae-based green Ag-NPs, AuNPs, and FeNPs as potential nanoremediators*, Green Process. Synth. **12** (2023) 20230008. doi: [10.1515/gps-2023-0008](https://doi.org/10.1515/gps-2023-0008).
- 87.17. G. Das and J.K. Patra, *Evaluation of Antibacterial Mechanism of Action, Tyrosinase Inhibition, and Photocatalytic Degradation Potential of Sericin-Based Gold Nanoparticles*, Int. J. Mol. Sci. **24** (2023) 9477, doi: [10.3390/ijms24119477](https://doi.org/10.3390/ijms24119477).
- 87.18. P. İpek, M.F. Baran, A. Baran, A. Hatipoğlu, C. Keskin, M. Yildiztekin, S. Küçükaydin, H. Becerekli, K. Kurt, A. Eftekhari, I. Huseynova, R. Khalilov and W.C. Cho, *Green synthesis and evaluation of antipathogenic, antioxidant, and anticholinesterase activities of gold nanoparticles (Au NPs) from Allium cepa L. peel aqueous extract*, Biomass Conv. Bioref. **14** (2024) 10661. doi: [10.1007/s13399-023-04362-y](https://doi.org/10.1007/s13399-023-04362-y).
- 87.19. F. Poursadegh, *Revolutionizing Catalyst Development – A Comprehensive Review of the Past, Present, and Future of Nanotechnologies in Synthesis and Development of New Catalysts*, IJMDES **2** (2023) 5.
- 87.20. A.A.H. Abdellatif, F. Ahmed, A.M. Mohammed, M. Alsharidah, A. Al-Subaiyel, W.A. Samman, A.A. Alhaddad, S.H. Al-Mijalli, M.A. Amin H. Barakat and S.K. Osman, *Recent Advances in the Pharmaceutical and Biomedical Applications of Cyclodextrin-Capped Gold Nanoparticles*, Inter. J. Nanomedicine **18** (2023) 3247. doi: [10.2147/IJN.S405964](https://doi.org/10.2147/IJN.S405964).
- 87.21. A.A.A. Romeh, “*Main Green Nanomaterials for Water Remediation*”, in: F.M. Policarpo Tonelli, A. Roy, H.C. Ananda Murthy (Eds.), *Green Nanoremediation: Sustainable Management of Environmental Pollution*, Springer, Cham, 2023: pp. 175–210. doi: [10.1007/978-3-031-30558-0_8](https://doi.org/10.1007/978-3-031-30558-0_8)
- 87.22. K. Hima Nandini, K. Sinu, and S. Pushpavanam, *Green Approach for the Simultaneous Synthesis and Separation of Gold Nanoparticles*, Langmuir **38** (2023) 9605. doi: [10.1021/acs.langmuir.3c00206](https://doi.org/10.1021/acs.langmuir.3c00206)
- 87.23. M.U. Sadiq, A. Shah, A. Haleem, S.M. Shah and I. Shah, *Eucalyptus globulus Mediated Green Synthesis of Environmentally Benign Metal Based Nanostructures: A Review*, Nanomaterials **13** (2023) 2019. doi: [10.3390/nano13132019](https://doi.org/10.3390/nano13132019)
- 87.24. N. El Messaoudi, Z. Ciğeroğlu, Z.M. Şenol, A. Bouich, E.S. Kazan-Kaya, L. Noureen, J.H.P. Américo-Pinheiro, *Green synthesis of nanoparticles for remediation organic pollutants in wastewater by adsorption*, in: *Advances in Chemical Pollution, Environmental Management and Protection*, Elsevier, 2024, pp. 305. doi: [10.1016/bs.apmp.2023.06.016](https://doi.org/10.1016/bs.apmp.2023.06.016)
- 87.25. J.F.K. Alsadooni, M. Haghi, A. Barzegar, M.A.H. Feizi, *The effect of chitosan hydrogel*

- containing gold nanoparticle complex with paclitaxel on colon cancer cell line, *Int. J. Biol. Macromol.* **247** (2023) 125612. doi: [10.1016/j.ijbiomac.2023.125612](https://doi.org/10.1016/j.ijbiomac.2023.125612)
- 87.26. A. Bisht, S. Richa, S. Jaiswal, J. Dwivedi and S. Sharma, “Nanosilver and nanogold delivery system in nanocosmetics: A recent update”, in: *Nanocosmetics : Delivery Approaches, Applications and Regulatory Aspects*, ed. P. Kesharwani, S. K. Dubey (CRC, 2023) 239.
- 87.27. M. Irfan, S. Bagherpour, H. Munir, L. Perez-Garcia, T. Fedatto, A. Afroz, N. Zeeshan, U. Rashid, *GC-MS metabolomics profile of methanol extract of Acacia modesta gum and gum-assisted fabrication and characterization of gold nanoparticles through green synthesis approach*, *Int. J. Biol. Macromol.* **252** (2023) 126215. doi: [10.1016/j.ijbiomac.2023.126215](https://doi.org/10.1016/j.ijbiomac.2023.126215)
- 87.28. H. Rizvi, M.A. Aziz, A.H. Naqvi, A. Ahmad, *Towards sustainable and selective detection of lead Ions: Selaginella bryopteris assisted green synthesis of gold nanoparticles with tunable properties*, *J. Environ. Chem. Eng.* **11** (2023) 110757. doi: [10.1016/j.jece.2023.110757](https://doi.org/10.1016/j.jece.2023.110757)
- 87.29. K. Dagli, A. Nambiar, Y. Banabakode, P. Jha, “Myconanoparticles: biosynthesis and functions in pest control and farming”, in: M. Kuddus, I.Z. Ahmad, C.M. Hussain (Eds.), *Myconanotechnology and Application of Nanoparticles in Biology*, Academic Press, 2023: pp. 55–78. doi: [10.1016/B978-0-443-15262-7.00001-2](https://doi.org/10.1016/B978-0-443-15262-7.00001-2)
- 87.30. S.S. Alterary, G.A.E. Mostafa, H. Alrabiah, M.A. Al-Alshaikh, M.F. El-Tohamy, *Charge Transfer Copper Chelating Complex and Biogenically Synthesized Copper Oxide Nanoparticles Using Salvia officinalis Laves Extract in Comparative Spectrofluorimetric Estimation of Anticancer Dabrafenib*, *J. Fluoresc.* **34** (2024) 465. doi: [10.1007/s10895-023-03388-9](https://doi.org/10.1007/s10895-023-03388-9)
- 87.31. S.K. Deivanathan and J. T.J. Prakash, *Synthesis of environmentally benign of gold nanoparticles from Vicoa indica leaf extracts and their physiochemical characterization, antimicrobial, antioxidant and anticancer activity against A₅₄₉ cell lines*, *Res. Chem. Intermed.* **49** (2023) 4955. doi: [10.1007/s11164-023-05114-3](https://doi.org/10.1007/s11164-023-05114-3)
- 87.32. Y.A. Yugay, M.R. Sorokina, V.P. Grigorochuk, T.V. Rusapetova, V.E. Silant’ev, A.E. Egorova, P.A. Adedibu, O.D. Kudinova, E.A. Vasyutkina, V.V. Ivanov, A.A. Karabtsov, D.V. Mashtalyar, A.I. Degtyarenko, O.V. Grishchenko, V.V. Kumeiko, V.P. Bulgakov, Y.N. Shkryl, *Biosynthesis of Functional Silver Nanoparticles Using Callus and Hairy Root Cultures of Aristolochia manshuriensis*, *J. Funct. Biomater.* **14** (2023) 451. doi: [10.3390/jfb14090451](https://doi.org/10.3390/jfb14090451)
- 87.33. M. El-Newehy, B.M. Thamer, M.M. Abdulhameed, A. Ahamed, H. El-Hamshary, *Bio-fabricated Gold Nanoparticles with Antibacterial and Antibiofilm Activities Against Food-borne Bacterial Pathogens Using Pseudomonas aeruginosa Metabolic Extract*, *J. Inorg. Organomet. Polym.* **34** (2023) 565. doi: [10.1007/s10904-023-02836-0](https://doi.org/10.1007/s10904-023-02836-0)
- 87.34. K. Shrestha, S. Kim, G. Cho, *Plasmonic materials and manufacturing methods for rapid and sustainable thermal cyclers for PCR*, *Mater. Today Adv.* **20** (2023) 100420. doi: [10.1016/j.mtadv.2023.100420](https://doi.org/10.1016/j.mtadv.2023.100420)
- 87.35. T. Sutjaritvorakul, P. Imsuwan, T. Damsud, B. Meksiriporn and S. Chutipajit, *Myco-*

- mediated synthesis and A-glucosidase inhibitory activity of silver nanoparticles produced by xylariaceous fungi*, Appl. Ecol. Environ. Res. **21** (2023) 4069.
doi: [10.15666/aeer/2105_40694079](https://doi.org/10.15666/aeer/2105_40694079)
- 87.36. S. Wahab, A. Salman, Z. Khan, S. Khan, C. Krishnaraj and S.-I. Yun, *Metallic Nanoparticles: A Promising Arsenal against Antimicrobial Resistance—Unraveling Mechanisms and Enhancing Medication Efficacy*, Int. J. Mol. Sci. **24** (2023) 14897.
doi: [10.3390/ijms241914897](https://doi.org/10.3390/ijms241914897)
- 87.37. T. Muhammad, A. Aziz, A. Khalid, B.S. Alotaibi, N.T. Bukhari, I. Nisa, F. Khan, N. Qayum, Y. Modafar, F. Shireen and M.S. Khalil, *Phytosynthesis, characterization and pharmacological investigation of gold nanoparticles using leaves of acacia modesta wall*, J. Popul. Ther. Clin. Pharmacol. **30** (2023) 60. doi: [10.53555/jptcp.v30i18.3020](https://doi.org/10.53555/jptcp.v30i18.3020)
- 87.38. A. Wahab, F. Batool, M. Muhammad, W. Zaman, R.M. Mikhlef and M. Naeem, *Current Knowledge, Research Progress, and Future Prospects of Phyto-Synthesized Nanoparticles Interactions with Food Crops under Induced Drought Stress Sustainability* **15** (2023) 14792. doi: [10.3390/su152014792](https://doi.org/10.3390/su152014792)
- 87.39. M.M. El-Sheekh, S.S. AlKafaas, H.A. Rady, B.E. Abdelmoaty, H.M. Bedair, A.A. Ahmed, M.T. El-Saadony, S.F. AbuQamar and K.A. El-Tarabily, *How Synthesis of Algal Nanoparticles Affects Cancer Therapy? – A Complete Review of the Literature*, Int. J. of Nanomedicine **18** (2023) 6601. doi: [10.2147/IJN.S423171](https://doi.org/10.2147/IJN.S423171)
- 87.40. I.V. Alabugin, *Chemistry: A Place to Publish Your Creative Multidisciplinary Research*, **5** (2023) 2677. doi: [10.3390/chemistry5040172](https://doi.org/10.3390/chemistry5040172)
- 87.41. L. Katrivas, A. Ben-Menachem, S. Gupta and A.B. Kotlyar, *Ultrasmall ATP-Coated Gold Nanoparticles Specifically Bind to Non-Hybridized Regions in DNA*, Nanomaterials **13** (2023) 3080. doi: [10.3390/nano13243080](https://doi.org/10.3390/nano13243080)
- 87.42. Y.E. Alqurashi, S.G. Almalki, I.M. Ibrahim, A.O. Mohammed, A.E. Abd El Hady, M. Kamal, F. Fatima and D. Iqbal, *Biological Synthesis, Characterization, and Therapeutic Potential of S. commune-Mediated Gold Nanoparticles*, Biomolecules **13** (2023) 1785. doi: [10.3390/biom13121785](https://doi.org/10.3390/biom13121785)
- 87.43. V. Mardina, T.A. Fadlly, T. Harmawan, Indriaty, Nurmilasari, *Cytotoxicity Testing of Gold Nanoparticles from the Aqueous Extracts of Sphagneticola trilobata (L.) J.F Pruski on Shrimp Leach and Vero Cell line*, Trop. J. Nat. Prod. Res. **7** (2023) 5654.
doi: [10.26538/tjnpr/v7i12.42](https://doi.org/10.26538/tjnpr/v7i12.42)
- 87.44. F. Polli, F. Simonetti, L. Surace, M. Agostini, G. Favero, F. Mazzei, R. Zumpano, *Nanoparticles in Electrochemical Immunosensors – A Concept and Perspective*, Chem-ElectroChem **11** (2024) e202300408. doi: [10.1002/celec.202300408](https://doi.org/10.1002/celec.202300408)
- 87.45. W.H.M. Al-Shammeryi, *Green Synthesis of Some Nanoparticles (Gold, Copper) and Their Effect on Seed Growth and Plant Physiology Anise (Pimpinella Anisum)*, Afr. J. Biol. Sci. **6** (2024) 85. doi: [10.33472/AFJBS.6.1.2024.85-93](https://doi.org/10.33472/AFJBS.6.1.2024.85-93)
- 87.46. R.T. Ariski, K.K. Lee, Y. Kim, C.-S. Lee, *The impact of pH and temperature on the green gold nanoparticles preparation using jeju hallabong peel extract for biomedical applications*, RSC Adv. **14** (2024) 14582. doi: [10.1039/D4RA00614C](https://doi.org/10.1039/D4RA00614C)
- 87.47. V.A. Ajayi, T.E. Adebayo and A. Lateef, *Novel multitasking gold nanoparticles biosyn-*

- thesized by *Cassia fistula*: antifungal, anti-obesity, anti-diabetic, and anti-ulcer activities, Research Square (2023), doi: [10.21203/rs.3.rs-3590139/v1](https://doi.org/10.21203/rs.3.rs-3590139/v1)
- 87.48. P. Gao, S. Md. Shaarani, N.Q.I. Mohd Noor, *Recent advances in inspection technologies of food safety health hazards for fish and fish products*, Crit. Rev. Food Sci. Nutr. **xxx** (2023) xxx. doi: [10.1080/10408398.2023.2289077](https://doi.org/10.1080/10408398.2023.2289077)
- 87.49. S.S. Gomte, P.V. Jadhav, N. Jothi Prasath V. R, T.G. Agnihotri and A. Jain, *From lab to ecosystem: Understanding the ecological footprints of engineered nanoparticles*, J. Environ. Sci. Health C **42** (2024) 33. doi: [10.1080/26896583.2023.2289767](https://doi.org/10.1080/26896583.2023.2289767)
- 87.50. O.B. Adewale, S.O. Anadozie, H. Davids and S. Roux, *Potential therapeutic role of gold nanoparticles in inflammatory diseases*, in: P. Kesharwani (Ed.), *Gold Nanoparticles for Drug Delivery*, Academic Press, 2024: pp. 197–225. doi: [10.1016/B978-0-443-19061-2.00021-3](https://doi.org/10.1016/B978-0-443-19061-2.00021-3)
- 87.51. N. El Messaoudi, Z. Ciğeroğlu, Z.M. Şenol, E.S. Kazan-Kaya, Y. Fernine, S. Gubernat and Z. Lopovic, *Green synthesis of CuFe₂O₄ nanoparticles from bioresource extracts and their applications in different areas: a review*, Biomass Conv. Bioref. **xxx** (2024) xxx. doi: [10.1007/s13399-023-05264-9](https://doi.org/10.1007/s13399-023-05264-9)
- 87.52. M.M. Ghobashy, Sh.A. Alkhursani, H.A. Alqahtani, T.K. El-damhougy and M. Madani, *Gold nanoparticles in microelectronics advancements and biomedical applications*, Mater. Sci. Eng. B **301** (2024) 117191. doi: [10.1016/j.mseb.2024.117191](https://doi.org/10.1016/j.mseb.2024.117191)
- 87.53. S. Nagarajalah, A.S. Giresha, P. Gopala Krishna, M.M. Gadewar, M. Praveen, N. Nanda, D. Urs, K.K. Dharmappa, B.M. Nagabhushana, Srilatha Rao, M. Mahadeva Swamy and K.V. Yatish, *Anti-oncogenic Potential and Inflammation Modulatory Response of Green Synthesized Biocompatible Silver Nanoparticles*, Chem. Biodiversity **21** (2024) e202301533. doi: [10.1002/cbdv.202301533](https://doi.org/10.1002/cbdv.202301533)
- 87.54. E. Tiryaki, T. Zorlu, R.A. Alvarez-Puebla, *Magnetic-Plasmonic Nanocomposites as Versatile Substrates for Surface-enhanced Raman Scattering (SERS) Spectroscopy*, Chem. Eur. J. **4** (2024) e202303987. doi: [10.1002/chem.202303987](https://doi.org/10.1002/chem.202303987)
- 87.55. B. Haji Ali and M. Baghdadi, *A review of plant-derived metallic nanoparticles synthesized by biosynthesis: synthesis, characterization, and applications*, in: A.K. Bhardwaj, A.L. Srivastav, K. Dwivedi, M. Sillanpää (Eds.), *Green and Sustainable Approaches Using Wastes for the Production of Multifunctional Nanomaterials*, Elsevier, 2024: pp. 251–272. doi: [10.1016/B978-0-443-19183-1.00001-5](https://doi.org/10.1016/B978-0-443-19183-1.00001-5)
- 87.56. H. S. Kamaluddin and K. Narasimharao, *Enviro-friendly Nanomaterial Synthesis and Its Utilization for Water Purification* in: *Novel Materials and Water Purification: Towards a Sustainable Future*, ed. G. L. Kyriakopoulos and M. G. Zamparas, Royal Society of Chemistry, 2024, ch. 13, pp. 298–352. doi: [10.1039/9781837671663-00298](https://doi.org/10.1039/9781837671663-00298)
- 87.57. M. Fritz, X. Chen, G. Yang, Y. Lv, M. Liu, S. Wehner and C.B. Fischer, *Gold Nanoparticles Bioproduced in Cyanobacteria in the Initial Phase Opened an Avenue for the Discovery of Corresponding Cerium Nanoparticles*, Microorganisms **12** (2024) 330. doi: [10.3390/microorganisms12020330](https://doi.org/10.3390/microorganisms12020330)
- 87.58. S. Basumatary, J. Daimari, A. Ghosh and A.K. Deka, *Green synthesis of NPs (Ag & Au) from some plant families (Phyllanthaceae, Lamiaceae, Rutaceae and Euphorbiaceae) and*

- their application in therapeutics: A review*, S. Afr. J. Bot. **166** (2024) 624.
doi: [10.1016/j.sajb.2024.02.003](https://doi.org/10.1016/j.sajb.2024.02.003)
- 87.59. S. Chanthee, C. Asavatesanupap, D. Sertphon, T. Nakkhong, N. Subjaleerndee, M. Santikunaporn, *Electrospinning with Natural Rubber and Ni Doping for Carbon Dioxide Adsorption and Supercapacitor Applications*, Eng. Sci., **27** (2024) 975.
doi: [10.30919/es975](https://doi.org/10.30919/es975)
- 87.60. S.J. Mary, V. Veeravarmal, P. Thankappan, P. Arumugam, P.I. Augustine and R. Franklin, *Anti-cancer effects of green synthesized gold nanoparticles using leaf extract of Annona muricata. L against squamous cell carcinoma cell line 15 through apoptotic pathway*, Dent. Res. J. **21** (2024) 14. doi: [10.4103/drj.drj_521_23](https://doi.org/10.4103/drj.drj_521_23)
- 87.61. D. Khurana and S. Soni, *Synthesis and Characterization of Multifunctional Nanocomposites*. In: Recent Trends in Cancer Therapeutics. Materials Horizons: From Nature to Nanomaterials (Springer, Singapore, 2024) doi: [10.1007/978-981-99-9879-1_3](https://doi.org/10.1007/978-981-99-9879-1_3)
- 87.62. S. Khatoun, M. Mahajan, S. Kumari, N. Iqbal, I. Wahid, M.I.R. Khan, *Green-synthesized gold nanoparticles induce adaptation in photosynthetic responses, sugar and nitrogen metabolism, and seed yield of salt-stressed mustard plants*, Clean. Techn. Environ. Policy **xxx** (2024) xxx. doi: [10.1007/s10098-024-02761-x](https://doi.org/10.1007/s10098-024-02761-x)
- 87.63. M. Elangovan, M. Santhoshkumar, K. Selvaraj, K. Sathishkumar, M. Kumar, M. Kumar Dharmalingam Jothinathan, M.K. Gatasheh, G. Kumar Gaurav and K. Rajesh, *Sunlight-driven photocatalytic and anticancer properties of biogenic synthesized gold nanoparticles (AuNPs) employing Polygala elongata*, J. King Saud Univ. Sci. **36** (2024) 103158. doi: [10.1016/j.jksus.2024.103158](https://doi.org/10.1016/j.jksus.2024.103158)
- 87.64. K. ur Rehman, U. Zaman, A. Alem, D. Khan, N.S. Khattak, M. Alissa, G.S. Aloraini, E.A. Abdelrahman, M.A. Alsuwat, K.J. Alzahrani, M. Almehmadi and M. Allahyani, *Alkaline protease functionalized hydrothermal synthesis of novel gold nanoparticles (ALPs-AuNPs): A new entry in photocatalytic and biological applications*, Int. J. Biol. Macromolecules **265** (2024) 131067. doi: [10.1016/j.ijbiomac.2024.131067](https://doi.org/10.1016/j.ijbiomac.2024.131067)
- 87.65. A.A. Arteaga-Castrejón, V. Agarwal and S. Khandual, *Microalgae as a potential natural source for the green synthesis of nanoparticles*, Chem. Commun. **60** (2024) 3874. doi: [10.1039/D3CC05767D](https://doi.org/10.1039/D3CC05767D)
- 87.66. K. Meher, G. Radha and M. Lopus, *Induction of autophagy-dependent and caspase- and microtubule-acetylation-independent cell death by phytochemical-stabilized gold nanopolygons in colorectal adenocarcinoma cells*, Nanoscale **16** (2024) 7976. doi: [10.1039/d4nr00730a](https://doi.org/10.1039/d4nr00730a)
- 87.67. A.K. Saleh, A.S. Hussein, J. Basu Ray and A.S. Elzaref, *Comparative versatility and diverse biological applications of eco-friendly zinc oxide and cobalt oxide nanoparticles using Punica granatum L. peel extract*, Nano-Struct. Nano-Objects **38** (2024) 101174. doi: [10.1016/j.nanoso.2024.101174](https://doi.org/10.1016/j.nanoso.2024.101174)
- 87.68. A. Tapia-Arellano, P. Cabrera, E. Cortés-Adasme, A. Riveros, N. Hassan, M.J. Kogan, *Tau- and α -synuclein-targeted gold nanoparticles: applications, opportunities, and future outlooks in the diagnosis and therapy of neurodegenerative diseases*, J. Nanobiotechnology **22** (2024) 248. doi: [10.1186/s12951-024-02526-0](https://doi.org/10.1186/s12951-024-02526-0)

- 87.69. J. Guzmán-Moreno, R.M. Ramírez-Santoyo, J.J. Ortega-Sigala, C. Ángeles-Chávez, V. Rodríguez-González, C. Rodríguez-Serrano, A. Patrón-Soberano, G.I. de Ávila-Araiza, F. Luna-Álvarez and L.E. Vidales-Rodríguez, *Fungal biosynthesis of gold nanoparticles with sporicidal activity against bacterial endospores*, Green Chem. Lett. Rev. **17** (2024) 2360489. doi: [10.1080/17518253.2024.2360489](https://doi.org/10.1080/17518253.2024.2360489)
- 87.70. S. Banoo, N. Pradhan, *One-step synthesis of stable gold nanoparticles using Aspergillus austwickii CO1 and its application in colorimetric detection of Mg²⁺ ion*, Chem. Pap. **xxx** (2024) xxx. doi: [10.1007/s11696-024-03528-w](https://doi.org/10.1007/s11696-024-03528-w)
88. M. Georgiev and H. Chamati, *Magneto-structural dependencies in 3d² systems : The trigonal bipyramidal V³⁺ complex*, Phys. Status Solidi B **259** (2022) 2100645.
- 88.1. T. Goh, R. Pandharkar, L. Gagliardi, *Multireference Study of Optically Addressable Vanadium-based Molecular Qubit Candidates*, J. Phys. Chem. **126** (2022) 36.
89. P. B. Santhosh, J. Genova, Z. Slavkova and H. Chamati, *Influence of melatonin on the structural and thermal properties of SOPC lipid membranes*, Colloids Surf. A Physicochem. Eng. Asp. **647** (2022) 129081.
90. T.M. Mishonov, N.I. Zahariev, H. Chamati and A.M. Varonov, *Possible zero sound in layered perovskites with ferromagnetic s-d exchange interaction*, SN Appl. Sci. **4** (2022) 228.
91. T.M. Mishonov, N.I. Zahariev, H. Chamati and A.M. Varonov, *Hot spots along the Fermi contour of high-T_c cuprates analyzed by s-d exchange interaction*, SN Appl. Sci. **4** (2022) 242.
92. M. Georgiev and H. Chamati, *Single-ion magnets with giant magnetic anisotropy and zero-field splitting*, ACS Omega **7** (2022) 42664.
- 92.1. B. Eskridge, H. Krakauer and S. Zhang, *Non-perturbative many-body treatment of molecular magnets*, J. Chem. Phys. **158** (2023) 234110. doi: [10.1063/5.0150706](https://doi.org/10.1063/5.0150706)
- 92.2. A. López, C. Cruz, V. Paredes-García, N. Veiga, F. Lloret, J. Torres and R. Chiozzzone, *Field-induced magnetic relaxation in heteropolynuclear Ln^{III}/Zn^{II} metal organic frameworks: cerium and dysprosium cases*, New J. Chem. **47** (2023) 21781. doi: [10.1039/D3NJ03774F](https://doi.org/10.1039/D3NJ03774F)
- 92.3. A. Zabala-Lekuona, A. Landart-Gereka, M.M. Quesada-Moreno, A.J. Mota, I.F. Díaz-Ortega, H. Nojiri, J. Krzystek, J.M. Seco, E. Colacio, *Zero-Field SMM Behavior Triggered by Magnetic Exchange Interactions and a Collinear Arrangement of Local Anisotropy Axes in a Linear Co^{II} Complex*, Inorg. Chem. **62** (2023) 20030. doi: [10.1021/acs.inorgchem.3c02817](https://doi.org/10.1021/acs.inorgchem.3c02817)
- 92.4. R.C. Martin, "Tales of a Lepidopterist: Using Amine Polyalcohol Ligands in the Development of Novel Heterometallic Single-Molecule Magnets", PhD Thesis, Manchester Metropolitan University 2023.
- 92.5. D.D. Semeshkina, Yu.A. Belousov, A.R. Savarets, M.V. Berekchiyan and V.D. Dolzhenko, *Controlling the Degree of Substitution of Lanthanides in Anionic Positions in Complexes [CeNi₆(Ala)₁₂]/[(Ln_xCe_{1-x})(NO₃)₃(OH)₃(H₂O)]*, Russ. J. Inorg. Chem. **68** (2023) 1273. doi: [10.1134/S0036023623601630](https://doi.org/10.1134/S0036023623601630)
- 92.6. R. Mičová, C. Rajnák, J. Titis, J. Moncol, J. Nováčiková, A. Bieńko and R. Boca, *A heptanuclear {Dy₂Cu₅} complex as a single-molecule magnet*, Dalton Trans. **53** (2024) 5147. doi: [10.1039/D3DT03811D](https://doi.org/10.1039/D3DT03811D)

- 92.7. A.T. Hand, B.D. Sanders and Z.-L. Xue, *Spectroscopic techniques to probe magnetic anisotropy and spin-phonon coupling in metal complexes*, Dalton Trans. **53** (2024) 4390. doi: [10.1039/D3DT03609J](https://doi.org/10.1039/D3DT03609J)
- 92.8. J. Zinke, “Pentamethylcyclopentadienyl-Halbsandwich-Eisenkomplexe mit ungewöhnlichen Carbenliganden”, PhD Thesis, University of Kassel, Germany, 2024. doi: [10.17170/KOBRA-2024042910100](https://doi.org/10.17170/KOBRA-2024042910100)
- 92.9. M. Pissas, E. Ferentinos, P. Kyritsis, Y. Sanakis, *Field-Induced Slow Magnetization Relaxation of a Tetrahedral $S=2$ $Fe^{II}S_4$ -Containing Complex*, ChemPlusChem **xxx** (2024) e202400109. doi: [10.1002/cplu.202400109](https://doi.org/10.1002/cplu.202400109)
93. M. Georgiev and H. Chamati, *Fine structure and the huge zero-field splitting in Ni^{2+} complexes*, Molecules **27** (2022) 8887.
94. E. Korutcheva, K. Korutchev, S. N. Santalla, J. Rodríguez-Laguna and H. Chamati, *The Restricted Boltzmann Machine Ansatz through Adiabatic Routes*, J. Phys. Conf. Ser. **2436** (2023) 012001.
95. E. Angelova and H. Chamati, *Dynamic simulation of the quasiparticle excitations spectra in the magnetic bcc iron*, J. Phys. Conf. Ser. **2436** (2023) 012011.
96. N. Ivanova and H. Chamati, *Physical properties of phospholipids at low temperatures through Slipid force field*, J. Phys. Conf. Ser. **2436** (2023) 012025.
97. N. Ivanova and H. Chamati, *The effect of cholesterol in SOPC lipid bilayer at low temperatures*, Membranes **13** (2023) 275.
- 97.1. N. Nisticò, M. Greco, M.Ch. Bruno, E. Giuliano, P. Sinopoli and D. Cosco, *Biomimetic lipid membranes: An overview on their properties and applications*, App. Mater. Today **35** (2023) 101998. doi: [10.1016/j.apmt.2023.101998](https://doi.org/10.1016/j.apmt.2023.101998)
- 97.2. T. Kumarage, N.B. Morris and R. Ashkar, *The effects of molecular and nanoscopic additives on phospholipid membranes*, Front. Phys. **11** (2023) 1251146. doi: [10.3389/fphy.2023.1251146](https://doi.org/10.3389/fphy.2023.1251146)
98. M. Georgiev, T. Baronian and H. Chamati, *A self-consistent exact diagonalization approach to the ground state magnetic properties of the meridional $[V(ddpd)_2]^{3+}$ complex*, Inorganics **11** (2023) 268.
99. M. Georgiev and H. Chamati, *The magnetic behavior of trigonal (bi-)pyramidal $3d^8$ mononuclear nanomagnets: The case of $[Ni(MDABCO)_2Cl_3]ClO_4$ complexes*, ACS Omega **8** (2023) 28640.
100. E. Iordanova, P. Miteva, D. Dakova, H. Chamati, G. Yankov, D.A. Georgieva and L.M. Kovachev, *Linear and nonlinear optics of broad-band laser pulses: Diffraction*, ACS Omega **9** (2024) 20648.

София, 3 юни 2024 г.

Подпис:

/ проф. дфн Хассан Шамати /