

Lista de lucrări

conf. dr. Járαι-Szabó Ferenc

- [1] A. C. Ciobanu, L. C. Petcu, F. Járαι-Szabó, and Z. Bálint. Validation of a 3D printed bolus for radiotherapy: a proof-of-concept study. *Biomedical Physics & Engineering Express* 11 (2025) 025033. DOI: 10.1088/2057-1976/adb15d.
- [2] A. C. Ciobanu, V. Sivoglo, D. Maican, F. Járαι-Szabó, and Z. Bálint. Custom-made, 3D-printed bolus cap for a case of scalp metastasis: A single-institution study. *Technical Innovations & Patient Support in Radiation Oncology* 35 (2025) 100332. DOI: 10.1016/j.tipsro.2025.100332.
- [3] A. C. Ciobanu, V. Sivoglo, D. Maican, F. Járαι-Szabó, and Z. Bálint. Reply to Correspondence by Kleebayoon and Wiwanitkit. *Technical Innovations and Patient Support in Radiation Oncology* 35 (2025) 100342. DOI: 10.1016/j.tipsro.2025.100342.
- [4] A. Ciobanu, L. Petcu, F. Járαι-Szabó, and Z. Bálint. Exploring the impact of filament density on the responsiveness of 3D-Printed bolus materials for high-energy photon radiotherapy. *Physica Medica* 127 (2024) 104849. DOI: <https://doi.org/10.1016/j.ejmp.2024.104849>.
- [5] A.-C. Ciobanu, L. C. Petcu, F. Costache, F. Jarai-Szabo, and Z. Balint. 1364: Exploring properties of 3D-Printed Bolus materials for radiation therapy. *Radiotherapy and Oncology* 194 (2024) S3258–S3261.
- [6] A. Gergely, T. S. Biró, F. Járαι-Szabó, and Z. Néda. Statistics of earthquakes based on the extended LGGR model. *Physica A: Statistical Mechanics and its Applications* 650 (2024) 129983. DOI: 10.1016/j.physa.2024.129983.
- [7] A. C. Ciobanu, M. Dumitru, L. Rebegea, F. Járαι-Szabó, and Z. Bálint. The Effect of Filament Density on the Build-Up Region Responsiveness of 3D Printed Boluses in High-Energy Photon Radiotherapy. *International Journal of Radiation Oncology, Biology, Physics* 117 (2023) e657. DOI: 10.1016/j.ijrobp.2023.06.2089.
- [8] A. Kuki, S. Lipcsei, I. Gere, F. Járαι-Szabó, A. Gergely, D. Ugi, P. D. Ispánovity, Z. Dankházi, I. Groma, and Z. Néda. Statistical analogies between earthquakes, micro-quakes in metals and avalanches in the 1D Burridge-Knopoff model. *Geofizika* 40 (2023) 1–27. DOI: 10.15233/gfz.2023.40.4.
- [9] I. Tóth, Z. I. Lázár, L. Varga, F. Járαι-Szabó, I. Papp, R. V. Florian, and M. Ercsey-Ravasz. Mitigating ageing bias in article level metrics using citation network analysis. *Journal of Informetrics* 15 (2021) 101105. DOI: <https://doi.org/10.1016/j.joi.2020.101105>.
- [10] L. Nagy, F. Járαι-Szabó, S. Borbély, and K. Tókési. Projectile coherence effects analyzed using impact parameters determined by classical trajectory Monte Carlo calculations. *Journal of Physics: Conference Series* 1412 (2020) 152032. DOI: 10.1088/1742-6596/1412/15/152032.
- [11] M. Schulz, A. Hasan, B. Lamichhane, T. Arthanayaka, M. Dhital, S. Bastola, L. Nagy, S. Borbély, and F. Járαι-Szabó. Projectile Coherence Effects in Simple Atomic Systems. *Journal of Physics: Conference Series* 1412 (2020) 062007. DOI: 10.1088/1742-6596/1412/6/062007.
- [12] L. Nagy, F. Járαι-Szabó, S. Borbély, T. Arthanayaka, B. Lamichhane, A. Hasan, and M. Schulz. Wave packet scattering in intermediate-energy p-He collisions. *State-of-the-Art Reviews on Energetic Ion-Atom and Ion-Molecule Collisions*. 2019. Chap. Chapter 5, 129–152. DOI: 10.1142/9789811211614_0005. eprint: https://www.worldscientific.com/doi/pdf/10.1142/9789811211614_0005.

- [13] Z. Sárközi, S. Borbély, and F. Járαι-Szabó. Deepening secondary students understanding of physics through escape games. Vol. 2071. 1. Jan. 2019, 050001. DOI: 10.1063/1.5090085. eprint: https://pubs.aip.org/aip/acp/article-pdf/doi/10.1063/1.5090085/14177439/050001_1_online.pdf.
- [14] L. Nagy, F. Járαι-Szabó, and S. Borbély. The effect of projectile wave packet width on the fully differential ionization cross-sections. *Journal of Physics B: Atomic, Molecular and Optical Physics* 51 (2018) 144005. DOI: 10.1088/1361-6455/aac8f8.
- [15] L. Varga, D. Deritei, M. Ercsey-Ravasz, R. Florian, Z. I. Lázár, I. Papp, and F. Járαι-Szabó. Normalizing Scientometric Indicators of Individual Publications Using Local Cluster Detection Methods on Citation Networks. *International Journal of Educational and Pedagogical Sciences* 12 (2018) 1190–1199.
- [16] Z. I. Lázár, I. Papp, L. Varga, F. Járαι-Szabó, D. Deritei, and M. Ercsey-Ravasz. Stochastic graph Voronoi tessellation reveals community structure. *Phys. Rev. E* 95 (2017) 022306. DOI: 10.1103/PhysRevE.95.022306.
- [17] L. Nagy, S. Borbély, and F. Járαι-Szabó. Theoretical study on projectile coherence effects in fully differential ionization cross sections. *Journal of Physics: Conference Series* 875 (2017) 092009. DOI: 10.1088/1742-6596/875/10/092009.
- [18] Z. Néda, F. Járαι-Szabó, and S. Boda. Cell-size distribution and scaling in a one-dimensional Kolmogorov-Johnson-Mehl-Avrami lattice model with continuous nucleation. *Phys. Rev. E* 96 (2017) 042145. DOI: 10.1103/PhysRevE.96.042145.
- [19] S. Sharma, T. Arthanayaka, B. Lamichhane, A. Hasan, S. Borbély, F. Járαι-Szabó, L. Nagy, and M. Schulz. Fully differential study on projectile coherence effects in ionization of helium by protons. *APS Division of Atomic, Molecular and Optical Physics Meeting Abstracts*. Vol. 2017. 2017, K1–157.
- [20] T. Arthanayaka, B. Lamichhane, A. Hasan, S. Gurung, J. Remolina, S. Borbély, F. Járαι-Szabó, L. Nagy, and M. Schulz. Fully differential study of wave packet scattering in ionization of helium by proton impact. *Journal of Physics B: Atomic, Molecular and Optical Physics* 49 (2016) 13LT02.
- [21] M. Schulz, T. Arthanayaka, B. Lamichhane, A. Hasan, S. Gurung, J. Remolina, S. Borbély, F. Járαι-Szabó, and L. Nagy. Experimental and theoretical fully differential study of coherence effects in ionization of He by proton impact. *APS Annual Gaseous Electronics Meeting Abstracts*. 2016, QR1–003.
- [22] F. Járαι-Szabó, S. Borbély, and L. Nagy. Projectile coherence effects studied by ab initio calculations. *Journal of Physics: Conference Series* 635 (2015) 022037. DOI: 10.1088/1742-6596/635/2/022037.
- [23] F. Járαι-Szabó and L. Nagy. Theoretical investigations on the projectile coherence effects in fully differential ionization cross sections. *The European Physical Journal D* 69 (2015) 4. DOI: 10.1140/epjd/e2014-50640-2.
- [24] D. Deritei, Z. I. Lázár, I. Papp, F. Járαι-Szabó, R. Sumi, L. Varga, E. R. Regan, and M. Ercsey-Ravasz. Community detection by graph Voronoi diagrams. *New Journal of Physics* 16 (2014) 063007. DOI: 10.1088/1367-2630/16/6/063007.
- [25] L. Nagy and F. Járαι-Szabó. Projectile coherence effects investigated for the ionization of helium. *Journal of Physics: Conference Series* 488 (2014) 082011. DOI: 10.1088/1742-6596/488/8/082011.
- [26] K. Bakos, A. Dombi, F. Járαι-Szabó, and Z. Néda. Fragmentation of drying paint layers. *AIP Conference Proceedings*. Vol. 1564. 1. AIP. 2013, 205–210. DOI: 10.1063/1.4832819.
- [27] B. Sándor, F. Járαι-Szabó, T. Tél, and Z. Néda. Chaos on the conveyor belt. *Phys. Rev. E* 87 (2013) 042920. DOI: 10.1103/PhysRevE.87.042920.

- [28] E.-Á. Horvát, F. Járαι-Szabó, Y. Brechet, and Z. Nédă. *Open Physics* 10 (2012) 926–935. DOI: doi:10.2478/s11534-012-0030-2.
- [29] F. Járαι-Szabó. Lane-Changing with Decision in a Two-Lane Spring-Block Traffic Model. *Studia Universitatis Babes-Bolyai, Physica* 57 (2012).
- [30] F. Járαι-Szabó and Z. Nédă. Earthquake model describes traffic jams caused by imperfect driving styles. *Physica A: Statistical Mechanics and its Applications* 391 (2012) 5727–5738. DOI: 10.1016/j.physa.2012.06.037.
- [31] F. Járαι-Szabó and Z. Nédă. WINNING STRATEGIES IN CONGESTED TRAFFIC. *International Journal of Modern Physics C* 23 (2012) 1250063. DOI: 10.1142/S0129183112500635.
- [32] D. Dumitrescu, F. Jarai-Szabo, and K. Simon. Link-Cell Method for Neighborhood Detection in Dynamic Evolutionary Clustering. *Analele Universitatii de Vest din Timisoara* 42 (2011).
- [33] F. Járαι-Szabó. Spring-Block Models and the multi-lane Highway Traffic. *Studia Universitatis Babes-Bolyai, Physica* 56 (2011).
- [34] F. Járαι-Szabó, E.-Á. Horvát, R. Vajtai, and Z. Nédă. Spring-block approach for nanobristle patterns. *Chemical Physics Letters* 511 (2011) 378–383. DOI: <https://doi.org/10.1016/j.cplett.2011.06.068>.
- [35] F. Járαι-Szabó and L. Nagy. Semiclassical fully differential ionization cross sections of helium with negatively charged fast projectiles. *Central European Journal of Physics* 9 (2011) 942–947. DOI: 10.2478/s11534-010-0120-y.
- [36] F. Járαι-Szabó, B. Sándor, and Z. Nédă. Spring-block model for a single-lane highway traffic. *Central European Journal of Physics* 9 (2011) 1002–1009. DOI: 10.2478/s11534-011-0007-6.
- [37] A. E. Horvath, F. Jarai-Szabo, G. Kaptay, R. Vajtai, and Z. Neda. Pattern formation and selection in nanotube arrays. *Univesrity Politehnica of Bucharest Scientific Bulletin-Series A-Applied Mathematics and Physics* 72 (2010) 27–32.
- [38] F. Járαι-Szabó and L. Nagy. Semiclassical fully differential cross section calculations for the ionization of small molecules. *Journal of Physics: Conference Series* 194 (2009) 102037. DOI: 10.1088/1742-6596/194/10/102037.
- [39] F. Járαι-Szabó, K. Nagy-Póra, and L. Nagy. Semiclassical model for calculating fully differential ionization cross sections of the H₂ molecule. *Journal of Physics B: Atomic, Molecular and Optical Physics* 42 (2009) 245203. DOI: 10.1088/0953-4075/42/24/245203.
- [40] F. Járαι-Szabó and L. Nagy. Impact parameter method calculations for fully differential ionization cross sections. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 267 (2009) 292–294. DOI: 10.1016/j.nimb.2008.10.064.
- [41] Z. Neda, F. Jarai-Szabo, E. Kaptalan, and R. Mahnke. Spring-block models and highway traffic. *Journal of Control Engineering and Applied Informatics* 11 (2009) 3–10.
- [42] J. L. Baran, S. Das, F. Járαι-Szabó, K. Póra, L. Nagy, and J. A. Tanis. Suppression of primary electron interferences in the ionization of N₂ by 1-5 MeV/u protons. *Phys. Rev. A* 78 (2008) 012710. DOI: 10.1103/PhysRevA.78.012710.
- [43] E. Horváth, F. Járαι-Szabó, and Z. Nédă. Spring-block type models for crack propagation in glass plates. *Journal of optoelectronics and advanced materials* 10 (2008) 2433–2437.
- [44] Z. Lázár, J. Lázár, and F. Járαι-Szabó. *Numerikus módszerek: egyetemi jegyzet*. Presa Universitară Clujeană, 2008.

- [45] J. L. Baran, S. Das, F. Járαι-Szabó, L. Nagy, and J. A. Tanis. Interferences in electron emission spectra from 1, 3 and 5 MeV $H^+ + N_2$ collisions. *Journal of Physics: Conference Series* 58 (2007) 215. DOI: 10.1088/1742-6596/58/1/045.
- [46] J.-S. Ferenc and Z. Néda. On the size distribution of Poisson Voronoi cells. *Physica A: Statistical Mechanics and its Applications* 385 (2007) 518–526. DOI: 10.1016/j.physa.2007.07.063.
- [47] F. Járαι-Szabó and L. Nagy. Semiclassical description of kinematically complete experiments. *Journal of Physics B: Atomic, Molecular and Optical Physics* 40 (2007) 4259. DOI: 10.1088/0953-4075/40/21/012.
- [48] F. Járαι-Szabó, Z. Néda, S. Aştılean, C. Farcău, and A. Kutttesch. Shake-induced order in nanosphere systems. *The European Physical Journal E* 23 (2007) 153–159. DOI: 10.1140/epje/i2006-10194-9.
- [49] F. Járαι-Szabó, A. Kutttesch, S. Astılean, Z. Néda, N. Chakrapami, P. Ajayan, and R. Vajtai. Spring-block type models for capillarity-driven self-organized nanostructures. *Journal of optoelectronics and advanced materials* 8 (2006) 1083.
- [50] Á. Néda, Z. Sárközi, F. Járαι-Szabó, and R. Deák. *Mechanika és hőtan: laboratóriumi jegyzet*. Presa Universitară Clujeană, 2006.
- [51] F. Járαι-Szabó, L. Nagy, and S. Fritzsche. Correlation effects for double K-shell vacancy production in lithium by fast charged projectile impact. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 233 (2005) 276–279. DOI: 10.1016/j.nimb.2005.03.121.
- [52] F. Járαι-Szabó, S. Aştılean, and Z. Néda. Understanding self-assembled nanosphere patterns. *Chemical Physics Letters* 408 (2005) 241–246. DOI: 10.1016/j.cplett.2005.04.051.
- [53] L. Nagy, F. Járαι-Szabó, and S. Fritzsche. Ionization-excitation of lithium by fast charged projectiles. *Journal of Physics B: Atomic, Molecular and Optical Physics* 38 (2005) 141. DOI: 10.1088/0953-4075/38/3/001.
- [54] D. Dumitrescu, F. Járαι-Szabó, and K. Simon. Link-Cell Method for Evolutionary Multi-Modal Optimization Application in Dynamic Evolutionary Clustering. *Carpathian Journal of Mathematics* 20 (2004) 177–186.
- [55] D. Dumitrescu, F. Járαι-Szabó, and K. Simon. Link-cell methods for dynamic evolutionary clustering. *Proceedings of International Symposium on Symbolic and Numeric Algorithms for Scientific Computing-SYSNAC, Timisoara*. 2004, 480–490.

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Data semnării: _____

Semnătura: _____