# FIȘA DE VERIFICARE A ÎNDEPLINIRII STANDARDELOR MINIMALE PENTRU OCUPAREA POSTURILOR DIDACTICE ȘI DE CERCETARE

**Standardele minimale necesare şi obligatorii pentru ocuparea posturilor de lector universitar / CS III, conferenţiar universitar / CS II şi profesor universitar / CS I la Facultatea de Fizică a Universităţii de Vest din Timişoara**

**Precizări:**

- $n_i^{ef}$ *reprezintă numărul efectiv de autori ai itemului i și ia următoarele valori:*

*$n_i$ dacă $n_i \le 5$, $(n_i+5)/2$ dacă $5 < n_i \le 15$, $(n_i+15)/3$ dacă $15 < n_i \le 75$ și $(n_i+45)/4$ dacă $n_i > 75$, unde $n_i$ reprezintă numărul de autori ai articolului i. În cazul publicațiilor HEPP (High Energy Particle Physics) cu număr mare de autori, dacă articolul are la bază o notă internă a experimentului la care candidatul este coautor, atunci* $\mathbf{n_i^{ef}}$ *poate fi dat de numărul de autori din nota internă.*

- *Lucrările de tip "**Article. Proceedings paper**" pot fi considerate la activitatea de cercetare sau la cea didactică și profesională, o singură dată, la alegerea candidatului.*

## 1. Activitatea didactică și profesională

**A1 - Cărți în edituri internaționale recunoscute** *Web of Science* **în calitate de autor**

| Nr. crt. | **Titlul** | Autori | Editura, an, link (dacă este cazul) | Punctaj $4/n_i^{ef}$ |
|---|---|---|---|---|
| 1. | | | | |
| Punctaj total indicator **A₁** | | | | **0** |

*Editurile recunoscute Web of Science se găsesc pe site-ul Web of Science – Master Book List-Publishers (http://wokinfo.com/mbl/publishers/)*

*Se acordă* $4/n_i^{ef}$ *puncte pentru fiecare carte .*

*Documente justificative: Copie în format hard, în format electronic sau link pe pagina web a editurii.*

**A2 - Capitole de cărți în edituri internaționale recunoscute** *Web of Science,* **în calitate de autor/ Review-uri în reviste cotate ISI**

| Nr. crt. | **Titlul capitolului - titlul cărții / titlul Review-ului** | Autori | Editura, an / revista, an, pagini, link (dacă este cazul) | Punctaj $1/n_i^{ef}$ |
|---|---|---|---|---|
| 1. | Quadrature-Based Lattice Boltzmann Models for Rarefied Gas Flow – *Flowing Matter* (Ed. F. Toschi, M. Sega) | V. E. Ambruș, V. Sofonea | Springer, 2019; https://link.springer.com/chapter/10.1007/978-3-030-23370-9_9 | 0,5 |
| 2. | Exact solutions in quantum field theory under rotation – *Strongly Interacting Matter Under* | V. E. Ambruş, E. Winstanley | Lecture Notes in Physics **987** (Springer, Cham 2021). https://doi.org/10.1007/978-3-030-71427-7_4. | 0,5 |

| | | | | |
|---|---|---|---|---|
| | *Rotation* (Ed. F. Becattini, J. Liao, M. Lisa) | | | |
| Punctaj total indicator $\mathbf{A_2}$ | | | | 1,0 |

*Editurile recunoscute Web of Science se găsesc pe site-ul Web of Science – Master Book List-Publishers (http://wokinfo.com/mbl/publishers/)*

*Se acordă* $1/n_i^{ef}$ *puncte pentru fiecare item.*
*Documente justificative: Copie în format hard, în format electronic sau link pe pagina web a editurii / revistei.*

### A3 - Cărţi în edituri internaţionale recunoscute *Web of Science* în calitate de editor

| Nr. crt. | **Titlul** | Editori | Editura, an, link (dacă este cazul) | Punctaj $0.5/n_i^{ef}$ |
|---|---|---|---|---|
| 1. | | | | |
| Punctaj total indicator $\mathbf{A_3}$ | | | | **0** |

*Editurile recunoscute Web of Science se găsesc pe site-ul Web of Science – Master Book List-Publishers (http://wokinfo.com/mbl/publishers/)*

*Se acordă* $0.5/n_i^{ef}$ *puncte pentru fiecare item.*
*Documente justificative: Copie în format hard, în format electronic sau link pe pagina web a editurii .*

### A4 - Cărţi, manuale, îndrumătoare de laborator în edituri naţionale sau alte edituri internaţionale ca autor

| Nr. crt. | **Titlul** | Autori | Editura, an, link (dacă este cazul) | Punctaj $0.5/n_i^{ef}$ |
|---|---|---|---|---|
| 1. | *Teste grilă de Fizică* | M. Ştef, V.E. Ambruş, A.M. Barb | Ed.Universităţii de Vest, Timişoara, 2016 http://www.librarie.net/p/279002/Teste-Grila-Fizica. | 0,16 |
| Punctaj total indicator $\mathbf{A_4}$ | | | | **0,16** |

*Se acordă* $0.5/n_i^{ef}$ *puncte pentru fiecare item.*
*Documente justificative: Copie în format hard, în format electronic sau link pe pagina web a editurii .*

### A5 - Capitole de cărţi în edituri naţionale sau alte edituri internaţionale ca autor

| Nr. crt. | **Titlul capitolului - titlul cărţii** | Autori | Editura, an, link (dacă este cazul) | Punctaj $0.2/n_i^{ef}$ |
|---|---|---|---|---|
| 1. | | | | |
| Punctaj total indicator $\mathbf{A_5}$ | | | | **0** |

*Se acordă* $0.2/n_i^{ef}$ *puncte pentru fiecare item.*

*Documente justificative: Copie în format hard, în format electronic sau link pe pagina web a editurii .*

## A6 - Lucrări în extenso (cel puțin 3 pagini) publicate în Proceedings-uri cu ISBN indexate ISI

| Nr. crt. | Titlul | Autori | Revista, editura, an, link (dacă este cazul) | Punctaj $0.2/n_i^{ef}$ |
|---|---|---|---|---|
| 1. | Thermal Lattice Boltzmann models derived by Gauss quadrature using the spherical coordinate system | V. E. Ambruş, V. Sofonea | J. Phys.: Conf. Ser. **362**, (2012) 012043, DOI: 10.1088/1742-6596/362/1/012043. | 0,1 |
| 2. | Massless Rotating Fermions Inside a Cylinder | V. E. Ambruş, E. Winstanley | AIP Conf. Proc. **1694** (2015) 020011; DOI: 10.1063/1.4937237. | 0,1 |
| 3. | Fermions on AdS | V. E. Ambruş, E. Winstanley | Springer Proceedings in Physics **170** (2015) 331-336; DOI: 10.1007/978-3-319-20046-0_39. | 0,1 |
| 4. | Dirac fermions on an anti-de Sitter background | V. E. Ambruş, E. Winstanley | AIP Conf. Proc. **1634** (2014) 40-49; DOI: 10.1063/1.4903012. | 0,1 |
| 5. | Anderson-Witting transport coefficients for flows in general relativity | V. E. Ambruş | AIP Conf. Proc. **1796** (2017) 020006; DOI: 10.1063/1.4972354. | 0,2 |
| 6. | Lattice Boltzmann simulation of droplet formation in T-junction geometries | S. Busuioc, V. E. Ambruş, V. Sofonea | AIP Conf. Proc. **1796** (2017) 020009; DOI: 10.1063/1.4972357. | 0,066 |
| 7. | Quadrature-based lattice Boltzmann model for relativistic flows | R. Blaga, V. E. Ambruş | AIP Conf. Proc. **1796** (2017) 020010; DOI: 10.1063/1.4972358. | 0,1 |
| 8. | Quantum Corrections in Thermal States of Fermions on Anti-de Sitter Space-time | V. E. Ambruş, E. Winstanley | AIP Conf. Proc. **1916** (2017) 020005; DOI: 10.1063/1.5017425. | 0,1 |
| 9. | Lattice Boltzmann study of the one-dimensional boost-invariant expansion with anisotropic initial conditions | V. E. Ambruş, C. Guga-Roşian | AIP Conf. Proc. **2071** (2019) 020014; DOI: 10.1063/1.5090061. | 0,1 |
| 10. | Lattice Boltzmann approach to rarefied gas flows using half-range Gauss-Hermite quadratures: Comparison to DSMC results based on ab initio potentials | V. E. Ambruş, F. Sharipov, V. Sofonea | AIP Conf. Proc. **2132** (2019) 060012; DOI: 10.1063/1.5119552. | 0,066 |
| 11. | Implicit-Explicit Finite-Difference Lattice Boltzmann Model with Varying Adiabatic Index | S. T. Kis, V. E. Ambruş | AIP Conf. Proc. **2218** (2020) 050008; DOI: 10.1063/5.0001069. | 0,1 |
| 12. | Development of transverse flow for small and large systems in conformal kinetic theory | V. E. Ambruş, S. Schlichting, C. Werthmann | Acta Phys. Pol. B Proc. Suppl. **16** (2023) 1-A32. DOI: 10.5506/APhysPolBSupp.16.1-A32. | 0,066 |
| 13. | Establishing the Range of Applicability of Hydrodynamics in High-Energy Collisions | C. Werthmann, V. E. Ambruş, S. Schlichting | EPJ Web of Conferences **296** (2024) 05003. DOI: 10.1051/epjconf/202429605003. | 0,066 |
| Punctaj total indicator $\mathbf{A_6}$ | | | | **1,264** |

*Se acordă $0.2/n_i^{ef}$ puncte pentru fiecare item.*

*Documente justificative: Copie în format hard, în format electronic sau link pe pagina web a editurii .*

## A7 - Brevete de invenție internaționale acordate

| Nr. crt. | **Titlul** | Autori | Autoritatea care a acordat brevetul link (dacă este cazul) | Punctaj $3/n_i^{ef}$ |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| Punctaj total indicator $\mathbf{A_7}$ | | | | **0** |

*Se acordă* $3/n_i^{ef}$ *puncte pentru fiecare item.*
*Documente justificative: Copie în format hard, în format electronic sau link pe pagina autorității care a acordat brevetul .*

**A8 - Brevete de invenție naționale acordate**

| Nr. crt. | **Titlul** | Autori | Autoritatea care a acordat brevetul link (dacă este cazul) | Punctaj $0.5/n_i^{ef}$ |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| Punctaj total indicator $\mathbf{A_8}$ | | | | **0** |

*Se acordă* $0.5/n_i^{ef}$ *puncte pentru fiecare item.*
*Documente justificative: Copie în format hard, în format electronic sau link pe pagina autorității care a acordat brevetul .*

**A9 - Director/ responsabil/ coordonator pentru programe de studii, programe de formare continuă, proiecte educaționale și proiecte de infrastructură (proiectele de cercetare se exclud)**

| Nr. crt. | **Titlul proiectului sau programului** | Calitatea (director sau responsabil) | Autoritatea contractantă, instituția, link (după cum este cazul) | Punctaj |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| Punctaj total indicator $\mathbf{A_9}$ | | | | **0** |

*Se acordă* $0.5$*puncte pentru fiecare item.*
*Calitatea de director/responsabil de programe de studii se considera o singura data.*
*Documente justificative: Copie în format hard sau în format electronic a documentelor de contractare sau link pe pagina autorității contractante sau a instituției unde s-a desfășurat programul sau alte documente care sa ateste calitatea mentionata.*

### A10 – Director /responsabil pentru proiecte de cercetare câștigate prin competiție națională sau internațională; proiectele de la punctul $A_9$ se exclud)

| Nr. crt. | Titlul proiectului | Calitatea (director sau responsabil) | Autoritatea contractantă, link (dacă este cazul) | Punctaj $V/100.000$ |
|---|---|---|---|---|
| 1. | Lattice Boltzmann models for the simulation of flows of rarefied gases in the relativistic regime | Director | UEFISCDI; http://quasar.physics.uvt.ro/~victor/RUTE2910/. | 1,106 |
| | Curs 2015: 1€=4,4450 lei; Buget 2015: 46.220,00 lei = €10.398,20<br>Curs 2016: 1€=4,4908 lei; Buget 2016: 246.550,00 lei = €54.901,13<br>Curs 2017: 1€=4,5681 lei; Buget 2017: 207.227,46 lei = €45.364,03<br>Buget Total: 499.997,46 lei = €110.663,36; Punctaj total: 1,106 | | | |
| 2. | Corecții cuantice în sisteme mezoscopice | Director | UEFISCDI: http://quasar.physics.uvt.ro/~victor/QCORR/. | 0,528 |
| | Curs 2018: 1€=4,6535 lei; Buget 2018: 83.295,00 lei = €17.899,43<br>Curs 2019: 1€=4,7452 lei; Buget 2019: 124.943,00 lei = €26.330,39<br>Curs 2020: 1€=4,8371 lei; Buget 2020: 41.647,00 lei = €8.609,91<br>Buget Total: 249.885,00 lei = €52.839,73; Punctaj total: 0,528 | | | |
| 3. | Modele cinetice pentru plasma quarc-gluon | Director | UEFISCDI; http://quasar.physics.uvt.ro/~victor/KQGP/. | 0,907 |
| | Curs 2022: 1€=4,9315 lei; Buget 2022: 136.800,00 lei = €27.740,03<br>Curs 2023: 1€=4,9465 lei; Buget 2023: 216.858,00 lei = €43.840,69<br>Curs 2024: 1€=4,9746 lei; Buget 2024: 95.527,00 lei = €19.202,95<br>Buget Total: 449.185,00 lei = €90.783,67; Punctaj total: 0,907 | | | |
| Punctaj total indicator $A_{10}$ | | | | **2,541** |

*Se acordă $V/100.000$ puncte pentru fiecare item, unde V este valoarea contractului în euro.*

*Sumele în lei sau în alte valute se convertesc în euro la cursul mediu din anul respectiv conform www.bnr.ro pentru perioada de după 1999 și la cursul din 1999 pentru perioada anterioară.*
*Responsabilii de proiect sunt cei care conduc o echipă de cercetare, fiind menționați ca atare în proiectul depus; în cazul lor se consideră doar suma aferentă echipei conduse.*
*Documente justificative: Copie în format hard sau în format electronic dupa devizul postcalcul.*

**Punctaj total obținut pentru activitatea didactică și profesională:**

$$A=\sum_{i=1}^{10} A_i = 4,965$$

**CS III, Lector universitar: A 0.5**
**CS II, Conferențiar universitar: A 1**
**CS I, Profesor : A>2**

## 2. Activitatea de cercetare

## 2.1 – Articole ştiinţifice originale, în extenso, ca autor

| Nr. crt. | **Referinţa bibliografică** (Autori, Titlul, Revista, Vol., anul, pag. încep. – pag.sf. | $\mathrm{AIS}_i$ | $n_i$ | $n_i^{\mathrm{ef}}$ | $\mathrm{AIS}_i/n_i^{\mathrm{ef}}$ |
|---|---|---|---|---|---|
| 1. | V. E. Ambruş, V. Sofonea, *High-order thermal lattice Boltzmann models derived by means of Gauss quadrature in the spherical coordinate system*, Phys. Rev. E **86** (2012) 016708. DOI: 10.1103/PhysRevE.86.016708. | *0,894* | *2* | *2* | *0,447* |
| 2. | B. Piaud, S. Blanco, R. Fournier, V. E. Ambruş, V. Sofonea, *Gauss quadratures - the keystone of lattice Boltzmann models*, Int. J. Mod. Phys. C **25** (2014) 1340016. DOI: 10.1142/S0129183113400160. | *0,245* | *5* | *5* | *0,049* |
| 3. | V. E. Ambruş, V. Sofonea, *Implementation of diffuse reflection boundary conditions using lattice Boltzmann models based on Gauss-Laguerre quadratures*, Phys. Rev. E **89** (2014) 041301(R). DOI:10.1103/PhysRevE.89.041301 . | *0,859* | *2* | *2* | *0,430* |
| 4. | V. E. Ambruş, E. Winstanley, *Rotating quantum states*, Phys. Lett. B **734** (2014) 296-301. DOI: 10.1016/j.physletb.2014.05.031. | *1,520* | *2* | *2* | *0,760* |
| 5. | V. E. Ambruş, V. Sofonea, *Lattice Boltzmann models based on Gauss quadratures*, Int. J. Mod. Phys. C **25** (2014) 1441011. DOI: 10.1142/S0129183114410113. | *0,245* | *2* | *2* | *0,122* |
| 6. | V. E. Ambruş, E. Winstanley, *Renormalised fermion vacuum expectation values on anti-de Sitter space-time*, Phys. Lett. B **749** (2015) 597-602. DOI: 10.1016/j.physletb.2015.08.045. | *1,489* | *2* | *2* | *0,744* |
| 7. | P. Fede, V. Sofonea, R. Fournier, S. Blanco, O. Simonin, G. Lepoutere, V. E. Ambruş, *Lattice Boltzmann model for predicting the deposition of inertial particles transported by a turbulent flow*, Int. J. of Multiphas. Flow **76** (2015). DOI: 10.1016/j.ijmultiphaseflow.2015.07.004. | *0,925* | *7* | *6* | *0,154* |
| 8. | V. E. Ambruş, E. Winstanley, *Rotating fermions inside a cylindrical boundary*, Phys. Rev. D **93** (2016) 104014. DOI:10.1103/PhysRevD.93.104014. | *1,112* | *2* | *2* | *0,556* |
| 9. | V. E. Ambruş, V. Sofonea, *Lattice Boltzmann models based on half-range Gauss-Hermite quadratures*, J. Comput. Phys. **316** (2016) 760. DOI:10.1016/j.jcp.2016.04.010. | *1,337* | *2* | *2* | *0,668* |
| 10. | V. E. Ambruş, I. Cotăescu, *Maxwell-Juttner distribution for rigidly rotating flows in spherically symmetric spacetimes using the tetrad formalism*, Phys. Rev. D **94** (2016) 085022. DOI:10.1103/PhysRevD.94.085022. | *1,112* | *2* | *2* | *0,556* |
| 11. | V. E. Ambruş, V. Sofonea, *Application of mixed quadrature lattice Boltzmann models for the simulation of Poiseuille flow at non-negligible values of the Knudsen number*, J. Comput. Sci. **17** (2016) 403-417. DOI:10.1016/j.jocs.2016.03.016. | *0,552* | *2* | *2* | *0,276* |
| 12. | V. E. Ambruş, E. Winstanley, *Thermal expectation values of fermions on anti-de Sitter space-time*, Class. Quantum Grav. **34** (2017) 145010. DOI: 10.1088/1361-6382/aa7863. | *1,146* | *2* | *2* | *0,573* |
| 13. | V. E. Ambruş, *Quantum non-equilibrium effects in rigidly-rotating thermal states*, Phys. Lett. B **771** (2017) 151-156. DOI: 10.1016/j.physletb.2017.05.038. | *1,346* | *1* | *1* | *1,346* |
| 14. | V. Sofonea, T. Biciuşcă, S. Busuioc, V. E. Ambruş, G. Gonnella, A. Lamura, *Corner-transport-upwind lattice Boltzmann model for bubble cavitation*, Phys. Rev. E **97** (2018) 023309. DOI: 10.1103/PhysRevE.97.023309. | *0,770* | *6* | *5,5* | *0,140* |
| 15. | V. E. Ambruş, *Transport coefficients in ultrarelativistic kinetic theory*, Phys. Rev. C **97** (2018) 024914. DOI: 10.1103/PhysRevC.97.024914. | *0,707* | *1* | *1* | *0,707* |
| 16. | V. E. Ambruş, C. Kent, E. Winstanley, *Analysis of Scalar and Fermion Quantum Field Theory on Anti-De Sitter Space-Time*, Int. J. Mod. Phys. D **27** (2018) 1843014. DOI: 10.1142/S0218271818430149. | *0,581* | *3* | *3* | *0,194* |
| 17. | V. E. Ambruş, R.Blaga, *High-order quadrature-based lattice Boltzmann models for the flow of ultrarelativistic rarefied gases*, Phys. Rev. C **98** (2018) 035201. DOI: 10.1103/PhysRevC.98.035201. | *0,707* | *2* | *2* | *0,354* |
| 18. | V. E. Ambruş, V. Sofonea, *Half-range lattice Boltzmann models for the simulation of Couette flow using the Shakhov collision term*, Phys. Rev. E **98** (2018) 063311, DOI: 10.1103/PhysRevE.98.063311. | *0,770* | *2* | *2* | *0,385* |

| | | | | | |
|---|---|---|---|---|---|
| 19. | S. Busuioc, V. E. Ambruş, *Lattice Boltzmann models based on the vielbein formalism for the simulation of flows in curvilinear geometries*, Phys. Rev. E **99** (2019) 033304, DOI: 10.1103/PhysRevE.99.033304. | *0,732* | *2* | *2* | *0,366* |
| 20. | G. Negro, S. Busuioc, V. E. Ambruş, G. Gonnella, A. Lamura, V. Sofonea, *Comparison between isothermal collision-streaming and finite-difference lattice Boltzmann models*, Int. J. Mod. Phys. C **30** (2019) 1941005, DOI: 10.1142/S0129183119410055. | *0,218* | *6* | *5,5* | *0,040* |
| 21. | V. E. Ambruş, S. Busuioc, A. J. Wagner, F. Paillusson, H. Kusumaatmaja, *Multicomponent Flow on Curved Surfaces: A Vielbein Lattice Boltzmann Approach*, Phys. Rev. E **100** (2019) 063306, DOI: 10.1103/PhysRevE.100.063306. | *0,732* | *5* | *5* | *0,146* |
| 22. | S. Busuioc, V. E. Ambruş, T. Biciuşcă, V. Sofonea, *Two-dimensional off-lattice Boltzmann model for van der Waals fluids with variable temperature*, Comput. Math. Appl. **79** (2020) 111-140. DOI: 10.1016/j.camwa.2018.12.015. | *0,928* | *4* | *4* | *0,232* |
| 23. | V. E. Ambruş, *Helical massive fermions under rotation*, JHEP**08**(2020)016. DOI: 10.1007/JHEP08(2020)016. | *1,016* | *1* | *1* | *1,016* |
| 24. | S. Busuioc, H. Kusumaatmaja, V. E. Ambruş, *Axisymmetric flows on the torus geometry*, J. Fluid Mech. **901** (2020) A9. DOI: 10.1017/jfm.2020.440. | *1,052* | *3* | *3* | *0,351* |
| 25. | V. E. Ambruş, F. Sharipov, V. Sofonea, *Comparison of the Shakhov and ellipsoidal models for the Boltzmann equation and DSMC for ab initio-based particle interactions*, Comput. Fluids **211** (2020) 104637. DOI: 10.1016/j.compfluid.2020.104637. | *0,956* | *3* | *3* | *0,319* |
| 26. | M. N. Chernodub, V. E. Ambruş, *Phase diagram of helically imbalanced QCD matter*, Phys. Rev. D **103** (2021) 094015. DOI: 10.1103/PhysRevD.103.094015. | *1,108* | *2* | *2* | *0,554* |
| 27. | V. E. Ambruş, E. Winstanley, *Vortical Effects for Free Fermions on Anti-De Sitter Space-Time*, Symmetry 13 (2021) 2019. DOI: 10.3390/sym13112019. | *0,435* | *2* | *2* | *0,217* |
| 28. | V. E. Ambruş, S. Busuioc, J. A. Fotakis, K. Gallmeister, C. Greiner, *Bjorken flow attractors with transverse dynamics*, Phys. Rev. D **104** (2021) 094022. DOI: 10.1103/PhysRevD.104.094022. | *1,108* | *5* | *5* | *0,221* |
| 29. | V. E. Ambruş, M. N. Chernodub, *Hyperon--anti-hyperon polarization asymmetry in relativistic heavy-ion collisions as an interplay between chiral and helical vortical effects*, Eur. Phys. J. C **82** (2022) 61. DOI: 10.1140/epjc/s10052-022-10002-y. | *1,162* | *2* | *2* | *0,281* |
| 30. | V. E. Ambruş, S. Schlichting, C. Werthmann, *Development of transverse flow at small and large opacities in conformal kinetic theory*, Phys. Rev. D **105** (2022) 014031. DOI: 10.1103/PhysRevD.105.014031. | *1,083* | *3* | *3* | *0,361* |
| 31. | V. E. Ambruş, R. Ryblewski, R. Singh, *Spin waves în spin hydrodynamics*, Phys. Rev. D **106** (2022) 014018. DOI: 10.1103/PhysRevD.106.014018. | *1,083* | *3* | *3* | *0,361* |
| 32. | D. Wagner, A. Palermo, V. E. Ambruş, *Inverse-Reynolds-dominance approach to transient fluid dynamics*, Phys. Rev. D **106** (2022) 016013. DOI: 10.1103/PhysRevD.106.016013. | *1,083* | *3* | *3* | *0,361* |
| 33. | V. E. Ambruş, L. Bazzanini, A. Gabbana, D. Simeoni, S. Succi, R. Tripiccione, *Fast kinetic simulator for relativistic matter*, Nat. Comput. Sci. **2** (2022) 641. DOI: 10.1038/s43588-022-00333-x. | *4,208* | *6* | *5,5* | *0,765* |
| 34. | V. E. Ambruş, E. Molnár, D. H. Rischke, *Transport coefficients of second-order relativistic fluid dynamics in the relaxation-time approximation*, Phys. Rev. D **106** (2022) 076005. DOI: 10.1103/PhysRevD.106.076005. | *1,083* | *3* | *3* | *0,361* |
| 35. | V. E. Ambruş, M. N. Chernodub, *Vortical effects in Dirac fluids with vector, chiral and helical charges*, Eur. Phys. J. C **83** (2023) 111. DOI: 10.1140/epjc/s10052-023-11244-0. | *1,119* | *2* | *2* | *0,559* |
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| 37. | V. E. Ambruş, S. Schlichting, C. Werthmann, *Opacity dependence of transverse flow, preequilibrium, and applicability of hydrodynamics in heavy-ion collisions*, Phys. Rev. D **107** (2023) 094013. DOI: 10.1103/PhysRevD.107.094013. | *1,057* | 3 | 3 | *0,352* |
| 38. | V. E. Ambruş, M. N. Chernodub, *Rigidly rotating scalar fields: Between real divergence and imaginary fractalization*, Phys. Rev. D **108** (2023) | *1,057* | 2 | 2 | *0,528* |

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| 40. | V. E. Ambruş, M. N. Chernodub, *Helical separation effect and helical heat transport for Dirac fermions*, Eur. Phys. J. C **84** (2024) 282. DOI: 10.1140/epjc/s10052-024-12636-6. | *1,119* | 2 | 2 | 0,56 |
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| 42. | V. E. Ambruş, M. N. Chernodub, *Acceleration as a circular motion along an imaginary circle: Kubo-Martin-Schwinger condition for accelerating field theories in imaginary-time formalism*, Phys. Lett. B **855** (2024) 138757. 10.1016/j.physletb.2024.138757. | *1,232* | 2 | 2 | 0,616 |
| 43. | V. E. Ambruş, E. Molnár, *Shakhov-type extension of the relaxation time approximation in relativistic kinetic theory and second-order fluid dynamics*, Phys. Lett. B **855** (2024) 138795. DOI: 10.1016/j.physletb.2024.138795. | *1,232* | 2 | 2 | 0,616 |
| 44. | V. E. Ambruş, D. Wagner, *High-order Shakhov-like extension of the relaxation time approximation in relativistic kinetic theory*, Phys. Rev. D **110** (2024) 056002. DOI: 10.1103/PhysRevD.110.056002. | *1,057* | 2 | 2 | 0,528 |
| 45. | P. Singha, V. E. Ambruş, M. N. Chernodub, *Inhibition of the splitting of the chiral and deconfinement transition due to rotation in QCD: The phase diagram of the linear sigma model coupled to Polyakov loops*, Phys. Rev. D **110** (2024) 094053. DOI: 10.1103/PhysRevD.110.094053. | *1,057* | 3 | 3 | 0,352 |
| 46. | S. Morales-Tejera, V. E. Ambruş, M. N. Chernodub, *Vortical waves in a quantum fluid with vector, axial, and helical charges. I. Non-dissipative transport*, Eur. Phys. J. C **84** (2024) 1320. DOI: 10.1140/epjc/s10052-024-13713-6. | *1,119* | 3 | 3 | 0,373 |
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| 49. | V. E. Ambruş, S. Schlichting, C. Werthmann, Collective dynamics in heavy and light-ion collisions. I. Kinetic theory vs hydrodynamics, Phys. Rev. D **111** (2025) 054024. DOI: 10.1103/PhysRevD.111.054024. | *1,057* | 3 | 3 | 0,352 |
| **Punctaj total indicator 2.1** | | | | | **I = 21,678** |

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## Precizări:

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- *$n_i^{ef}$ reprezintă numărul efectiv de autori ai itemului i și ia următoarele valori:*

$n_i^{ef} = \{ n_i, n_i \le 5 \{ (n_i+5) ❑/❑ 2, n_i \in [5,15] \{ (n_i+15) ❑/❑ 3, n_i \in [15,75]$

- *În cazul publicațiilor HEPP (High Energy Particle Physics) cu număr mare de autori, dacă articolul are la bază o notă internă a experimentului la care candidatul este coautor, atunci* $\mathbf{n_i^{ef}}$ *poate fi dat de numărul de autori din nota internă.*

## 2.2 –Articole ştiinţifice originale în extenso ca prim autor sau autor corespondent, conform menţiunilor de pe articol

| Nr. | **Referinţa bibliografică**<br>(Autori, Titlul, Revista, Vol., anul, pag.$_{inceput}$-pag.$_{sfârşit}$) | AIS$_i$ |
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| 29. | V. E. Ambruş, M. N. Chernodub, *Vortical effects in Dirac fluids with vector, chiral and helical charges*, Eur. Phys. J. C **83** (2023) 111. DOI: 10.1140/epjc/s10052-023-11244-0. | *1,119* |
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| 31. | V. E. Ambruş, S. Schlichting, C. Werthmann, *Opacity dependence of transverse flow, preequilibrium, and applicability of hydrodynamics in heavy-ion collisions*, Phys. Rev. D **107** (2023) 094013. DOI: 10.1103/PhysRevD.107.094013. | *1,057* |
| 32. | D. Wagner, V. E. Ambruş, E. Molnár, *Analytical structure of the binary collision integral and the ultrarelativistic limit of transport coefficients of an ideal gas*, Phys. Rev. D **109** (2024) 056018. DOI: 10.1103/PhysRevD.109.056018. | *1,057* |
| 33. | V. E. Ambruş, M. N. Chernodub, *Helical separation effect and helical heat transport for Dirac fermions*, Eur. Phys. J. C **84** (2024) 282. DOI: 10.1140/epjc/s10052-024-12636-6. | *1,119* |
| 34. | V. E. Ambruş, E. Molnár, D. H. Rischke, *Relativistic second-order dissipative and anisotropic fluid dynamics in the relaxation-time approximation for an ideal gas of massive particles*, Phys. Rev. D **109** (2024) 076001. DOI: 10.1103/PhysRevD.109.076001. | *1,057* |
| 35. | V. E. Ambruş, M. N. Chernodub, *Rigidly rotating scalar fields: Between real divergence and imaginary fractalization*, Phys. Rev. D **108** (2023) 085016. DOI: 10.1103/PhysRevD.108.085016. | *1,057* |
| 36. | V. E. Ambruş, M. N. Chernodub, *Acceleration as a circular motion along an imaginary circle: Kubo-Martin-Schwinger condition for accelerating field theories in imaginary-time formalism*, Phys. Lett. B **855** (2024) 138757. 10.1016/j.physletb.2024.138757. | *1,232* |
| 37. | V. E. Ambruş, E. Molnár, *Shakhov-type extension of the relaxation time approximation in relativistic kinetic theory and second-order fluid dynamics*, Phys. Lett. B **855** (2024) 138795. DOI: 10.1016/j.physletb.2024.138795. | *1,232* |
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| 39. | P. Singha, V. E. Ambruş, M. N. Chernodub, *Inhibition of the splitting of the chiral and deconfinement transition due to rotation in QCD: The phase diagram of the linear sigma model coupled to Polyakov loops*, Phys. Rev. D **110** (2024) 094053. DOI: 10.1103/PhysRevD.110.094053. | *1,057* |
| 40. | S. Morales-Tejera, V. E. Ambruş, M. N. Chernodub, *Vortical waves in a quantum fluid with vector, axial, and helical charges. I. Non-dissipative transport*, Eur. Phys. J. C **84** (2024) 1320. DOI: 10.1140/epjc/s10052-024-13713-6. | *1,119* |
| 41. | S. Morales-Tejera, V. E. Ambruş, M. N. Chernodub, *Vortical waves in a quantum fluid with vector, axial, and helical charges. II. Dissipative effects*, Eur. Phys. J. C **85** (2025) 89. DOI: 10.1140/epjc/s10052-025-13770-5. | *1,119* |
| 42. | V. E. Ambruş, C. Werthmann, S. Schlichting, Collective dynamics in heavy and light-ion | *1,057* |

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| | collisions. I. Kinetic theory vs hydrodynamics, Phys. Rev. D **111** (2025) 054024. DOI: 10.1103/PhysRevD.111.054024. | |
| 43. | V. E. Ambruş, C. Werthmann, S. Schlichting, Collective dynamics in heavy and light-ion collisions. II. Determining the origin of collective behavior in high-energy collisions, Phys. Rev. D **111** (2025) 054025. DOI: 10.1103/PhysRevD.111.054025. | *1,057* |
| **Punctaj total indicator 2.2** | | **P = 48,519** |

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| | |
|---|---|
| **CS III, Lector universitar:** | **I>1, P>1** |
| **CSII, Conferențiar universitar:** | **I>2, P>2** |
| **CSI, Profesor universitar:** | **I>4; P>4** |

**I = 21,678; P = 48,519**

## 3. Recunoașterea impactului activității

**3.1. Citări în reviste științifice cu factor de impact care se regasesc in InCites Journal Citation Reports sau in carti in edituri recunoscute Web of Science. Nu se iau in considerare citarile provenind din articole care au ca autor sau coautor candidatul**

| Nr. publ. citată | Nr. publ. care citează | Referinţa bibliografică a publicaţiei care citează (Autori, Titlul, Revista, Vol., anul, pag.inceput -pag.sfârşit) | $c_i$ al publ. citate | $n_i^{ef}$ al publ. citate | Punctaj $\frac{c_i}{n_i^{ef}}$ |
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| | | | | **Punctaj total indicator 3.1** | **C = 244,40** |

**Precizări:**

*$c_i$ reprezintă numărul de citări pentru publicaţia " i ".*
*$n_i$ este numărul de autori ai publicaţiei " i " citate.*
*$n_i^{ef}$ – numărul efectiv de autori ai publicaţiei " i " citate.*
*$n_i^{ef}$ reprezintă numărul efectiv de autori ai itemului i și ia următoarele valori:*

*$n_i$ dacă $n_i \le 5$, $(n_i +5)/2$ dacă $5 < n_i \le 15$, $(n_i +15)/3$ dacă $15 < n_i \le 75$ și $(n_i +45)/4$ dacă $n_i > 75$, unde $n_i$ reprezintă numărul de autori ai articolului i. În cazul publicațiilor HEPP (High Energy Particle Physics) cu număr mare de autori, dacă articolul are la bază o notă internă a experimentului la care candidatul este coautor, atunci $n_i^{ef}$ poate fi dat de numărul de autori din nota internă.*

*Nu se iau în considerare citările provenind din articole care au ca autor sau coautor candidatul (autocitările);*

**3.2. Factorul Hirsch**

**h(Web of Science) = 16**

**Criterii minimale pentru recunoașterea impactului activității:**
**CS III, Lector universitar: C, h – nu se evaluează**
**CS II, Conferențiar universitar: C ≥ 20, h ≥ 5**
**CS I, Profesor universitar: C ≥ 40 h ≥ 10**

**C = 244,40 ≥ 20 (criteriu îndeplinit)**
**H = 16 ≥ 5 (criteriu îndeplinit)**

**Punctajul total CNATDCU:** T =A + P / 2 + I / 2 + C / 20+ h / 5
= 4,965+24,259+10,839+12,220+3,200
= 55,483

**Criterii minimale punctaj total:**
**CS III, Lector universitar, T ≥ 1.5**
**CS II, Conferenţiar universitar:T ≥ 5**
**CS I, Profesor universitar: T ≥ 12**

**T = 55,483 ≥ 5 (criteriu îndeplinit)**

| Indicator | A | I | P | C | h | T |
|---|---|---|---|---|---|---|
| Valoare minimă pentru Lector | 0.5 | 1 | 1 | - | - | 1.5 |
| Valoare minima pentru Conferentiar | 1 | 2 | 2 | 20 | 5 | 5 |
| Valoare minima pentru Profesor | 2 | 4 | 4 | 40 | 10 | 12 |
| **Valoare realizata** | 4,965 | 21,678 | 48,519 | 244,40 | 16 | 55,483 |
| **Grad de îndeplinire** | 496% | 1083% | 2425% | 1222% | 320% | 1109% |