

LISTA COMPLETĂ DE LUCRĂRI

Conf. dr. Pop Nicolina

1. LISTA CELOR MAI RELEVANTE 10 LUCRĂRI PUBLICATE

1. S Niyonzima, **Pop Nicolina**, F Iacob, Å Larson, A E Orel, J Zs Mezei, K Chakrabarti, V Laporta , K Hassouni, D Benredjem, A Bultel, J Tennyson , D Reiter , I F Schneider, *Low-energy collisions between electrons and BeD⁺* PLASMA SOURCES SCIENCE & TECHNOLOGY, 27(2), **2018**, 025015 (1-10).
2. S.Niyonzima, S.Ilie, **Nicolina Pop**, Zs. Mezei, K.Chakrabarti, V.Morel, B.Peres, D.A.Little, K.Hassounid, Å.Larson, A.E.Ore, D.Benredjem, A.Bultel, J.Tennyson, D.Reiter, I.F.Schneider, *Low-energy collisions between electrons and BeH⁺ in the edge of fusion plasmas: cross sections and rate coefficients for all the vibrational states of the ion*, ATOMIC DATA AND NUCLEAR DATA TABLES,115, **2017**, 287-308.
3. Epee, MDE; Mezei, JZ; Motapon, O; **Pop Nicolina** ; Schneider IF, *Reactive collisions of very low-energy electrons with H₂⁺: rotational transitions and dissociative recombination*, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 455(1), **2016**, 276-281.
4. Motapon O, **Pop Nicolina**, Argoubi F, Mezei J, Epee MDE, Faure A, Telmini M, Tennyson J, Schneider IF, *Rotational transitions induced by collisions of HD⁺ ions with low-energy electrons*, PHYSICAL REVIEW A, 90(1), **2014**, 012706-1-9.
5. Popov Dusan, **Pop Nicolina**, *Statistical Properties of the Excited Binomial States for the Pseudoharmonic Oscillator*, CHINESE JOURNAL OF PHYSICS, 52(2), **2014**, 738-769.
6. **Pop Nicolina**, Pacurar Angel, Boata Remus, Gravila Paul, Paulescu Marius, *The assessment of beam solar irradiance using parametric model*, INTERNATIONAL JOURNAL OF GREEN ENERGY, 11(8), 2014, 876-885.
7. **Pop Nicolina**, Dușan Popov, M. Davidovic, *Density Operator in Terms of Coherent States Representation with the Applications in the Quantum Information*, INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, 52(2), **2013**, 2275-2283.
8. I. F. Schneider, **Pop Nicolina**, Ch. Jungen, *Analytic three-channel model for resonance-averaged direct and indirect dissociative recombination processes of molecular ions*, PHYSICAL REVIEW A , 86 (6), **2012** , 062706.
9. Popov D., **Pop Nicolina**, Luminosu I, Chiritoiu V, *Density matrix approach of the excitation on coherent states of the pseudoharmonic oscillator*, EPL, 87(4), **2009**, 44003.
10. **Pop Nicolina**, Vlase G, Vlase T, Doca N, Mogoș A, Loițescu A, *Compensation effect as a consequence of vibrational energy transfer in homogeneous and isotropic heat field*, JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, 92(1), **2008**, 313-317.

2. TEZA DE DOCTORAT

Pop Nicolina - „Contribuții la studiul unor sisteme cuantice solvabile: Operatori de salt pentru oscilatori relativști”; domeniu de doctorat: Fizică, conducător științific: Prof.dr.Ion I. Cotăescu; susținută public în 14.07.2006; confirmată prin Ordinul MECTS Nr. 5764/28.11.2006.

3. LISTELE CU CONTRIBUȚIILE PERSONALE ORGANIZATE PE STRUCTURA TIPULUI DE ACTIVITĂȚI PREVĂZUTE ÎN ORDINUL MINISTERULUI EDUCAȚIEI NAȚIONALE

A1.1 CĂRȚI ȘI CAPITOLE ÎN CĂRȚI DE SPECIALITATE ÎN EDITURI RECUNOSCUTE

- [1] **Pop Nicolina**, Cap.8: „Coherent states”(pag. 67-81) in "New Frontiers in Nanochemistry Concepts_Vol 1 Structural Nanochemistry" edited by M.V. Putz, CRC Press Taylor&Francis Group, Apple Academic Press,(1479 pagini), ISBN 9781771887809, 2020.
- [2] **Pop Nicolina**, Cap.13: „Excitons”(pag. 125-133) in "New Frontiers in Nanochemistry Concepts_Vol 1 Structural Nanochemistry" edited by M.V. Putz, CRC Press Taylor&Francis Group, Apple Academic Press,(1479 pagini), ISBN 9781771887809, 2020.
- [3] **Pop Nicolina**, Cap.50: „Z-Partition Function”(pag. 547-557) in "New Frontiers in Nanochemistry Concepts_Vol 1 Structural Nanochemistry" edited by M.V. Putz, CRC Press Taylor&Francis Group, Apple Academic Press,(1479 pagini), ISBN 9781771887809, 2020.
- [4] **Pop Nicolina**, *Sisteme cuantice solvabile. Modele de oscilatori relativști*, Editura Politehnica, Timisoara, 130-pagini, ISBN 978-973-625-821-3, 2009.
- [5] Dusan Popov, **Pop Nicolina**, *Bazele fizice ale conversiei fotovoltaice*, Editura Politehnica, Timisoara , 147-pagini, ISBN 978-606-554-053-8, 2010.
- [6] Paulescu Marius, Vangheli Dorina , Neculae Adrian, Tulcan Paulescu Eugenia, **Pop Nicolina**, Gravrila Paul, Vlase Titus, Fara S., Finta D., *Celule fotovoltaice nanostructurate* Editura Universitatii de Vest, Timisoara, 204-pagini, ISBN 978-973-625-821-3, 2007

A1.2 MATERIALE DIDACTICE

- [1] **Pop Nicolina**, *Fizică-Elemente fundamentale pentru ingineri*, Editura Politehnica, Timisoara, 206-pagini, ISBN 978-606-554-739-1, 2013. (reeditat 21.10.2014, 2016-2019)
- [2] Luminosu Ioan, **Pop Nicolina**, Chiritoiu Viorel, Costache Marius, *Fizică-Teorie, probleme, teste*, , Editura Politehnica, Timisoara , 502-pagini (5 capitole contribuție proprie-120 pagini), ISBN 978-606-554-071-2, 2010.(reeditat 2013, 2015-2019)

Note de curs postate pe Campus Virtual și pe site-ul web al Departamentului Bazele
Fizice ale Ingineriei

- [1] Fizică : <https://cv.upt.ro/course/view.php?id=1037>
- [2] Fizica Conversiei Fotovoltaice: <https://cv.upt.ro/course/view.php?id=298>
- [3] Note de curs Fizică generală: <http://www.et.upt.ro/etf/index.php?link=2&sublink=1607&pag=1&lang=ro>
- [4] Conversia termosolară: <http://www.et.upt.ro/etf/index.php?link=2&sublink=1691&pag=1&lang=ro>
- [5] Lucrări laborator fizică:
<http://www.et.upt.ro/etf/index.php?link=2&sublink=1742&pag=1&lang=ro>
<http://www.et.upt.ro/etf/index.php?link=2&sublink=1142&pag=1&lang=ro>
- [6] Probleme seminar Fizica Conversiei Fotovoltaice:
<http://www.et.upt.ro/etf/index.php?link=2&sublink=1225&pag=1&lang=ro>

A2. ARTICOLE ÎN REVISTE COTATE ISI ȘI ÎN VOLUMELE UNOR
MANIFESTĂRI ȘTIINȚIFICE INDEXATE ISI PROCEEDINGS

ARTICOLE ÎN REVISTE COTATE ISI

- [1] V Sajfert, **Pop Nicolina***, Dusan Popov, *Geometrical analyses of nanostructures*, NANOSYSTEMS: PHYSICS, CHEMISTRY, MATHEMATICS, 11(1), **2020**, 36–43.
- [2] S Niyonzima, **Pop Nicolina**, F Iacob, Å Larson, A E Orel, J Zs Mezei, K Chakrabarti, V Laporta , K Hassouni, D Benredjem, A Bultel, J Tennyson , D Reiter , I F Schneider, *Low-energy collisions between electrons and BeD⁺*, PLASMA SOURCES SCIENCE & TECHNOLOGY, 27(2), **2018**, 025015 (1-10).
- [3] Calinoiu D, Stefu N, Boata R; Blaga R; **Pop Nicolina**; Paulescu E; Sabadus A; Paulescu M, *Parametric modeling: A simple and versatile route to solar irradiance*, ENERGY CONVERSION AND MANAGEMENT, 164, **2018**, 175-187.
- [4] S.Niyonzima, S.Ilie, **Nicolina Pop**, Zs. Mezei, K.Chakrabarti, V.Morel, B.Peres, D.A.Little, K.Hassounid, Å.Larson, A.E.Ore, D.Benredjem, A.Bultel, J.Tennyson, D.Reiter, I.F.Schneider, *Low-energy collisions between electrons and BeH⁺ in the edge of fusion plasmas: cross sections and rate coefficients for all the vibrational states of the ion*, ATOMIC DATA AND NUCLEAR DATA TABLES, 115, **2017**, 287-308.
- [5] Cioabla A, **Pop Nicolina***, Calinoiu D, Trif-Tordai G., *Comparative analysis of agricultural materials influenced by anaerobic fermentation for biogas production in terms of ash melting behavior*, JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, 127, **2017**, 515-523.
- [6] Paulescu M ; **Pop Nicolina***; Stefu N; Paulescu E; Boata, R ; Calinoiu D, *SEASONAL MODELING OF HOURLY SOLAR IRRADIATION SERIES*, ROMANIAN JOURNAL OF PHYSICS, 62(7-8), **2017**, 813.
- [7] Stefu, N; Paulescu M ; Gravila, P ; Paulescu, E ; **Pop Nicolina**; Boata R, *MODEL FOR THE UV BIOLOGICALLY EFFECTIVE DOSE AND APPLICATION UNDER FUTURE CLIMATE CONDITIONS*, ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL, 16(1), **2017**, 225-234.
- [8] Epee, MDE; Mezei, JZ; Motapon, O; **Pop Nicolina** ; Schneider IF, *Reactive collisions of very low-energy electrons with H₂⁺: rotational transitions and dissociative recombination*, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 455(1), **2016**, 276-281

- [9] J Zs Mezei, F Colboc, **Pop Nicolina**, S Ilie, K Chakrabarti, S Niyonzima, M Lepers, A Bultel, O Dulieu, O Motapon, J Tennyson, K Hassouni, I F Schneider, *Dissociative recombination and vibrational excitation of BF⁺ in low energy electron collisions*, PLASMA SOURCES SCIENCE & TECHNOLOGY, 25(5), **2016**, 055022 (12pp).
- [10] Cindea, L; Hatiegan C ; **Pop Nicolina**; Negrea, R; Raduca, E; Gillich, GR ; Danut, M; Nedeloni, MD, *The influence of thermal field in the electric arc welding of X60 carbon steel components in the CO₂ environment*, APPLIED THERMAL ENGINEERING, 103, **2016**, 1164-1175
- [11] Paulescu M.; Stefu N.; Calinoiu D.; Paulescu E, **Pop Nicolina**; Boata, R ; Mares O, *Angstrom-Prescott equation: Physical basis, empirical models and sensitivity analysis*, RENEWABLE & SUSTAINABLE ENERGY REVIEWS, 62, **2016**, 495-506.
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- [15] **Pop Nicolina***, Pacurar Angel, Boata Remus, Gravila Paul, Paulescu Marius, *The assessment of beam solar irradiance using parametric model*, INTERNATIONAL JOURNAL OF GREEN ENERGY , 11(8), **2014**, 876-885.
- [16] Motapon O, **Pop Nicolina**, Argoubi F, Mezei J, Epee MDE, Faure A, Telmini M, Tennyson J, Schneider IF, *Rotational transitions induced by collisions of HD⁺ ions with low-energy electrons*, PHYSICAL REVIEW A, 90(1), **2014**, 012706-1-9.
- [17] Popov Dusan, **Pop Nicolina***, *Statistical Properties of the Excited Binomial States for the Pseudoharmonic Oscillator*, CHINESE JOURNAL OF PHYSICS, 52(2), **2014**, 738-769
- [18] Mihaela Răduca, Cornel Hațiegan, **Pop Nicolina***, Eugen Răduca, Gilbert-Rainer Gillich, *Finite element analysis of heat transfer in transformers from high voltage stations*, JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, 117(3), **2014**, 1-5.
- [19] Delia-Gabriela Calinoiu , Nicoleta Stefu, Marius Paulescu , Gavrilă Trif-Tordai , Oana Mares, Eugenia Paulescu, Remus Boata, **Pop Nicolina**, Angel Pacurar, *Evaluation of errors made in solar irradiance estimation due to averaging the Angstrom turbidity coefficient*, ATMOSPHERIC RESEARCH, 150, **2014**, 69-78.
- [20] **Pop Nicolina***, Cornel Hațiegan, Titus Vlase, Mihaela Răduca, Gilbert-Rainer Gillich, O. Vasile, Eugen Răduca, *Fermionic oscillators and their connection with the isokinetic temperature*, ROMANIAN REPORT IN PHYSICS, 66(3), **2014**, 716–722.
- [21] Paulescu Marius, Pacurar Angel, Stefu Nicoleta, Mares Oana, Paulescu Eugenia, Calinoiu Delia, **Pop Nicolina**, Boata Remus, Gravila Paul, *Nowcasting solar irradiance using the sunshine number*, ENERGY CONVERSION AND MANAGEMENT, 79, **2014**, 690-697.
- [22] **Pop Nicolina***, Alin Mogos, Titus Vlase, G. Vlase, Nicolae Doca, *Theoretic analysis and experimental evidence for relationships between the derivative*

- thermogravimetric curves and the Gramm–Schmidt profiles*, JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, 113(1), **2013**, 113-119.
- [23] Duşan Popov, **Pop Nicolina***, M. Davidovic, *Negative binomial states for the pseudoharmonic oscillator*, PHYSICA SCRIPTA, T153, **2013**, 010451 pp.1-5.
- [24] K. Chakrabarti, D. R. Backodissa-Kiminou, **Pop Nicolina**, J. Zs. Mezei, O. Motapon, F. Lique, O. Dulieu, A. Wolf, I. F. Schneider, *Dissociative recombination of electrons with diatomic molecular cations above dissociation threshold: Application to H_2^+ and HD^+* , PHYSICAL REVIEW A, 87, **2013**, 0227021-10.
- [25] Duşan Popov, Vjekoslav SAJFERT, **Pop Nicolina***, Chiritoiu V., *About a new family of coherent states for some $SU(1,1)$ central field potentials*, JOURNAL OF MATHEMATICAL PHYSICS, 54(3), **2013**, 032103.
- [26] D. Calinoiu, M. Paulescu, I. Ionel, N. Stefu, **Pop Nicolina**, R. Boata, A. Pacurar, P. Gravila, E. Paulescu, G. Trif-Tordai, *Influence of aerosols pollution on the amount of collectable solar energy*, ENERGY CONVERSION AND MANAGEMENT, 70, **2013**, 76-82.
- [27] C. Hatiegan, M. Raduca, D. Frunzaverde, E. Raduca, **Pop Nicolina***, G. C. Gillich, *The modeling and simulation of the thermal analysis on the hydrogenerator stator winding insulation*, JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, 113(3), **2013**, 1217-1221.
- [28] Pacurar Angel, Stefu Nicoleta, Mares Oana, Paulescu Eugenia, Calinoiu Delia, **Pop Nicolina**, Boata Remus, Gravila Paul, Paulescu Marius, *Forecasting hourly global solar irradiation using simple non-seasonal models*, JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY, 5(6), **2013**, 063140.
- [29] **Pop Nicolina***, Duşan Popov, M. Davidovic, *Density Operator in Terms of Coherent States Representation with the Applications in the Quantum Information*, INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, 52(2), **2013**, 2275-2283.
- [30] Popov Dusan, Dong Shi-Hai, **Pop Nicolina**, Sajfert Vjekoslav, Simon Simona, *Construction of the Barut-Girardello quasi coherent states for the Morse potential*, ANNALS OF PHYSICS, 339, **2013**, 122-134.
- [31] I. F. Schneider, **Pop Nicolina**, Ch. Jungen, *Analytic three-channel model for resonance-averaged direct and indirect dissociative recombination processes of molecular ions*, PHYSICAL REVIEW A, 86(6), **2012**, 062706.
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- [35] Eugenia Paulescu, Nicoleta Stefu, Paul Gravila, Remus Stefan Boata, **Pop Nicolina**, Marius Paulescu, *Procedure of embedding biological action functions into the atmospheric transmittance* , THEORETICAL AND APPLIED CLIMATOLOGY, 109(3-4), **2012**, 323-332.
- [36] V. Sajfert , S. Jacimovski, Jovan P Šetrajcic, Ljiljana Maškovic, N. Bednar, **Pop Nicolina**, Bratislav Tošic, *Optical Properties of Nanostructures*, J COMPUT THEOR NANOS, 8, **2011**, 1-6.
- [37] Nicolae Doca, **Pop Nicolina***, Alin Mogos, Paul Albu , Titus Vlase, *Selective activation of Heterogeneous Systems:A Consequence of the Jahn-Teller*, REVUE ROUMAINE DE CHIMIE, 56(10-11), **2011**, 953-957.
- [38] Popov D., **Pop Nicolina***, Luminosu I, Chiritoiu V, Costache M., *Generalized Barut-Girardello Coherent States for Mixed States with Arbitrary Distribution*, INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, 49(4), **2010**, 661-680.
- [39] Popov D., **Pop Nicolina***, Luminosu I, Chiritoiu V, *Density matrix approach of the excitation on coherent states of the pseudoharmonic oscillator*, EPL, 87(4), **2009**, 44003.
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- [41] Cotăescu Ion, **Pop Nicolina***, *Approximating the Partition Function of Morse Oscillators*, INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, 48(6), **2009**, 1596-1602.
- [42] **Pop Nicolina***, Vlase G, Vlase T, Doca N, Mogoș A, Loițescu A, *Compensation effect as a consequence of vibrational energy transfer in homogeneous and isotropic heat field*, JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, 92(1), **2008**, 313-317.
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(*): corresponding author;

ISI PROCEEDINGS

- [44] F Iacob, **Nicolina Pop**, J Zs Mezei, S Niyonzima, V Laporta, K Chakrabarti, IF Schneider, *Reactive collisions between electrons and BeT⁺*, Conference: 19th Physics Conference (TIM) Location: Timisoara, ROMANIA Date: MAY 2019 TIM19 PHYSICS CONFERENCE Book Series: AIP Conference Proceedings Volume: 2218(1), 050010, **2020**.
- [45] Bogdan, R.; **Pop Nicolina**; Holotescu, C., *Using web 2.0 technologies for teaching technical courses*, 18th Physics Conference Timisoara, MAY 24-26, 2018 TIM18 PHYSICS CONFERENCE Book Series: AIP Conference Proceedings Volume: 2071 Article Number: UNSP 050003, **2019**.
- [46] Iacob F; **Pop Nicolina**; Mezei, JZ; Epee, MDE; Motapon, O; Niyonzima, S; Laporta, V; Schneider, IF, *Recombination and Excitation of Molecular Cations with Electrons: Application to H-2(+), BeD⁺ and BeT⁺*, Conference: 18th Physics Conference (TIM) Book Series: AIP Conference Proceedings Volume: 2071 Article Number: UNSP 020007-1, **2019**.
- [47] **Pop, Nicolina**; Cira, Octavian; Duma, Virgil-Florin, *Analytic functions of optical choppers for Gaussian laser beams*, Conference on Digital Optical Technologies SPIE Book Series: Proceedings of SPIE Volume: 10335 Article Number: 103351P, **2017**.
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- [50] **Pop, Nicolina**, Iacob, F ; Mezei, JZ; Motapon, O ; Niyonzima, S ; Kashinski, DO ; Talbi, D ; Hickman, AP ; Schneider, IF, *Reactive Collisions of Electrons with H-2(+), HD⁺, BeH⁺, BeD⁺ and SH⁺*, 17th Physics Conference Location: Timisoara, ROMANIA, 2017, TIM17 PHYSICS CONFERENCE Book Series: AIP Conference Proceedings Volume: 1916 Article Number: UNSP 020013, **2017**.
- [51] J. Zs. Mezei, S. Niyonzima, D. Backodissa, **Pop Nicolina**, F. O. Waffeu Tamo, K. Chakrabarti, O. Motapon, A. Wolf, J. Robert, O. Dulieu, A. Larson, A. E. Orel, A. Bultel and I. F. Schneider, *Electronic and photonic reactive collisions in edge fusion plasma and interstellar space: Application to H₂ and BeH systems*, IOP-Journal of Physics Conference Series, 576 (1), **2015**, 012005.
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Conferences, The European Physical Journal Conferences , Vol.84, **2015**, 02003. DOI: 10.1051/epjconf/20158402003.

- [53] **Pop Nicolina**, O. Motapon, S. Niyonzima, M. D. Epée Epée, S. Ilie, J. Zs. Mezei, K. Chakrabarti, I. F. Schneider, *Study of reactive collisions between electrons and molecular cations using multichannel quantum defect theory: Application to HD^+ and BeH^+* . AIP Conference Proceedings 1634, **2014**, 70-75 ; DOI: 10.1063/1.4903016.
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- [55] Popov Dusan, **Pop Nicolina**, Simon Simona, *The New Integrals in the Complex Plane Resulting from the Coherent State Formalism*, AIP Conference Proceedings, Volume: 1564, **2013**, 3-9.
- [56] Paulescu Marius, Stefu Nicoleta, Gravila Paul, Paulescu Eugenia, **Pop Nicolina**, Calinoiu Delia, Pacurar Angel, Boata Remus, Mares Oana, *Atmospheric Transmittance Model for Photosynthetically Active Radiation*, AIP Conference Proceedings, Volume: 1564, **2013**, 188-193.
- [57] Popov Dusan, **Pop Nicolina**, Maria Robert, *Excited Binomial States For The Pseudoharmonic Oscillator*, AIP Conference Proceedings, Volume: 1472, **2012**, 77-82.
- [58] **Pop Nicolina**, F. Lique, Schneider IF, *The enhancing role of the closed channels in dissociative recombination: an example for the $H-2(+)/H-2$ system*, AIP Conference Proceedings, Volume: 1472, **2012**, 162-171.
- [59] **Pop Nicolina**, Sajfert Vjekoslav, Popov Dusan, *Conductance In Cylindrical Quantum Dots*, AIP Conference Proceedings, Volume: 1472, **2012**, 172-178.
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- [61] Popov Dusan , **Pop Nicolina**, Sajfert Vjekoslav, *Excitation on the Coherent States of Pseudoharmonic Oscillator* AIP Conference Proceedings, Volume: 1131, **2009**, 61-66.
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