

UNIVERSITATEA DIN CRAIOVA
FACULTATEA DE ȘTIINTE
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Lect. dr. Nicoleta-Corina BABALIC

LISTA LUCRARILOR ȘTIINȚIFICE

A. Teza de doctorat

Sisteme dinamice integrabile și fenomenologie solitonică, 2014
Autor: Nicoleta-Corina BĂBĂLÎC

B. Cărți și capitole de cărți publicate

1. *Fizica atomului și moleculei. Lucrări practice*

Autori: Nicoleta-Corina Băbălîc, Ion Pălărie

Editura Universitaria, Craiova, 2018, ISBN: 978-606-14-1285-3, 2017, 171 pagini

2. *Sisteme neliniare integrabile și fenomenologie solitonică*

Autor: Nicoleta Corina Babalic,

Editura Universitaria, Craiova, 2018, ISBN 978-606-14-1452-9, 148 pagini.

C. Lucrări indexate ISI/BDI

Lucrări în reviste cotate ISI

1. *On a new lattice Volterra system*

Autor: N. C. Babalic

Rom. Journ. Phys., Vol. 58, Nos. 5-6, Bucharest (2013) 408–413.

2. *On various integrable discretizations of a general two component Volterra system*

Autori: Corina N. Babalic, A. S. Carstea

J. Phys. A: Math. Theor. vol. 46, no.14 (2013) 5205

3. *On Tzitzeica equation and spectral properties of related Lax operators*

Autori : N. C. Babalic, Radu Constantinescu and Vladimir S. Gerdjikov

Balkan Journal of Geometry and Its Applications, Vol. 19, No. 2 (2014) 11-22

4. *On some new forms of lattice integrable equations*

Autori: N. C. Babalic, A. S. Carstea

Central European Journal of Physics 12(5):341-347 (2014)

5. On the soliton solutions of a family of Tzitzeica equations
 Autori: Corina N. Babalic, Radu Constantinescu and Vladimir S. Gerdjikov,
 Journal of Geometry and Symmetry in Physics 37 (2015) 1-24.
6. *Bilinear approach to supersymmetric Gardner equation*
 Autori: C. N. Babalic, A. S. Carstea
 Theoretical and Mathematical Physics Vol. 188 No. 2 (2016) 1172–1180
7. *Coupled Ablowitz-Ladik equations with branched dispersion*
 Autori: Corina N. Babalic, A. S. Carstea
 Journal of Physics A: Mathematical and Theoretical, Volume 50, Nr. 41 (2017)
8. *Integrable discretisation of coupled Ablowitz-Ladik equations with branched dispersion*
 Autor: Corina N. Babalic
 Romanian Journal of Physics 63, 114 (2018)
9. *Bilinear approach to Kuperschmidt super-KdV type equations*
 Autori: N. C. Babalic, A. S. Carstea
 Journal of Physics A: Mathematical and Theoretical, 51, 225204 (2018)
10. *The soliton solutions for semidiscrete complex mKdV equation*
 Autor: Corina N. Babalic,
 ITM Web of Conferences, Vol. 34, 03002, (2020).
11. *Bilinear approach to supersymmetric AKNS system; multiple dressing of fermionic amplitudes*
 Autori: Corina N. Babalic, A. S. Carstea
 Modern Physics Letters A, 2050143, (2020).
12. *Complete integrability and complex solitons for generalized Volterra system with branched dispersion*
 Autor: Corina N. Babalic,
 International Journal of Modern Physics B, 34 (29) 2050274, (2020).
13. *Integrable discretisations of Volterra system with multiple branches of dispersion*
 Autor: Corina N. Babalic,
 Modern Physics Letters B, Vol: 3, Issue: 5, No: 2150097, (2021)
14. *The Functional Expansion Approach for Solving NPDEs as a Generalization of the Kudryashov and G'/G Methods*
 Autor: C. Ionescu, C.N. Babalic, R. Constantinescu, R. Efreem
 SYMMETRY-BASEL, Volume: 14 Issue: 4 No: 827 (2022)

15. *Overview on the generalized Volterra System, solutions and integrability*
 Autor: Corina N. Babalic
 Journal of Physics: Conference Series, Vol. 2719, (2024). Proceeding for the 1st Workshop on Soliton Theory, Nonlinear Dynamics and Machine Learning 12/08/2023 - 17/08/2023 Hybrid.
16. *The Compatibility of Some Integrability Methods and Related Solutions for the Variable Coefficients Geophysical KdV Model*
 Autori: R. Cimpoiășu, R. Constantinescu, C.N. Babalic
Axioms **2025**, 14(8), 557
17. *Generalized equations with a given soliton type solution. The example of the Chafee-Infante model*
 Autori: R. Constantinescu, C.N. Babalic
2nd Workshop on Soliton Theory Nonlinear Dynamics and Machine Learning-SoThNoDyML, Journal of Physics: Conference Series 3002 (1), 012010, (2025).
18. *Coupled Multicomponent First Multiplicative Bogoyavlensky Lattice and Its Multisoliton Solutions*
 Autor: C.N. Babalic
Symmetry-Basel **2025**, 17(11), 1907.

Lucrări în reviste indexate BDI

19. *Alternative integrable discretization of Korteweg de Vries equation*
 Autori : Corina Babalic, A. S. Carstea
 Annals of the University of Craiova, Physics AUC 21 (2011) 95-100
20. *Two Soliton solution of Tzitzeica equation*
 Autori : Corina N. Babalic, R. Constantinescu
 Annals of the University of Craiova, Physics AUC 23 (2014) 36-51
21. *Fermionic extensions of KdV equation*
 Autor : Corina N. Babalic
 Annals of the University of Craiova, Physics AUC, 28, (2018).
22. *Hirota bilinear method for constructing integrable discretizations of semidiscrete solitonic equations*
 Autor : Corina N. Babalic
 Annals of the University of Craiova, Physics AUC, vol. 30 (part II), 166-174 (2020)
23. *The generalized semidiscrete cmKdV system and the periodic reduction*
 International Conference on Applied Mathematics and Numerical Methods (ICAMNM 2022) – fourth edition

Location: Craiova, Romania, June 29-July 2, 2022
Autor: Corina N. Babalic
Book Series: ITM Web of Conferences, Volume 49 (2022).

24. *Auxiliary equations for solving nonlinear evolutionary equations*

Location: October 18 – 22, 2021, Belgrade, Serbia
Autori: Corina N. Babalic, R. Constantinescu
Proceeding of the 2nd CONFERENCE ON NONLINEARITY, Serbian Academy of Nonlinear Sciences [(SANS)], Belgrade, ISBN 978-86-905633-7-1 (2022)

25. *Coupled discrete solitonic equations of additive Bogoyavlensky and the periodic reduction*

Autor: Corina N. Babalic
Vol. 427 - 11th International Conference of the Balkan Physical Union (BPU11) - S09-TMCP Theoretical, Mathematical and Computational Physics, POS PROCEEDINGS OF SCIENCE, ISBN 9788670259508 (2023).

Data 13.12. 2025

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