

# List of publications - Delia Ionescu-Kruse

## Book chapters

1. D. Ionescu, *Gravitational Fields in the Relativistic Theory of Gravitation. Current Topics in Continuum Mechanics, Vol. III*, Editor Lazar Dragos, Editura Academiei Române, Bucureşti 2006, 115–150, ISBN: 973-27-1348-8.
2. D. Ionescu-Kruse, *Nonlinear Water Waves and Wave-Current Interactions at Arbitrary Latitude. Nonlinear Dispersive Waves. Advances in Mathematical Fluid Mechanics*, Editor David Henry, Birkhäuser 2024, 201–216, ISBN: 978-3-031-63511-3.

## Journal articles

1. D. Ionescu-Kruse, R. Ivanov, *Nonlinear two-dimensional water waves with arbitrary vorticity*, **Journal of Differential Equations** **368** (2023), 317–349.
2. D. Ionescu-Kruse, *Exact Viscous Compressible Flow Describing the Dynamics of the Atmosphere*, **Journal of Mathematical Fluid Mechanics** **24** (2022), Art. No. 43.
3. D. Ionescu-Kruse, *Analytical Atmospheric Ekman-Type Solutions with Height - Dependent Eddy Viscosities*, **Journal of Mathematical Fluid Mechanics** **23** (2021), Art. No. 18.
4. D. Ionescu-Kruse, *Exponential profiles producing genuine three-dimensional nonlinear flows relevant for equatorial ocean dynamics*, **Journal of Differential Equations** **268** (2020), 1326–1344.
5. D. Dutykh, D. Ionescu-Kruse, *Effects of vorticity on the travelling waves of some shallow water two-component systems*, **Discrete and Continuous Dynamical Systems** **39** (2019), 5521–5541.
6. J. Chu, D. Ionescu-Kruse, Y. Yang, *Exact solution and instability for geophysical waves at arbitrary latitude*, **Discrete and Continuous Dynamical Systems** **39** (2019), 4399–4414.
7. J. Chu, D. Ionescu-Kruse, Y. Yang, *Exact solution and instability for geophysical waves with centripetal forces at arbitrary latitude*, **Journal of Mathematical Fluid Mechanics** **21** (2019), Art. No.: UNSP 19.
8. D. Ionescu-Kruse, *A three-dimensional autonomous nonlinear dynamical system modelling equatorial ocean flows*, **Journal of Differential Equations** **264** (2018), 4650–4668.
9. D. Ionescu-Kruse, *On the short-wavelength stabilities of some geophysical flows*, **Philosophical Transactions of the Royal Society A** **376** (2018), 20170090.

10. D. Ionescu-Kruse, C. I. Martin, *Local Stability for an Exact Steady Purely Azimuthal Equatorial Flow*, **Journal of Mathematical Fluid Mechanics** **20** (2018), 27–34.
11. D. Ionescu-Kruse, *Local stability for an exact steady purely azimuthal flow which models the Antarctic Circumpolar Current*, **Journal of Mathematical Fluid Mechanics** **20** (2018), 569–579.
12. D. Ionescu-Kruse, *Variational derivation of a geophysical Camassa-Holm type shallow water equation*, **Nonlinear Analysis** **156** (2017), 286–294.
13. D. Ionescu-Kruse, C. I. Martin, *Periodic equatorial water flows from a Hamiltonian perspective*, **Journal of Differential Equations** **262** (2017), 4451–4474.
14. D. Ionescu-Kruse, *Exact steady azimuthal edge waves in rotating fluids*, **Journal of Mathematical Fluid Mechanics** **19** (2017), 501–513.
15. D. Ionescu-Kruse, *Instability of Pollard's exact solution for geophysical ocean flows*, **Physics of Fluids** **28** (2016), no.086601.
16. D. Dutykh, D. Ionescu-Kruse, *Travelling wave solutions for some two-component shallow water models*, **Journal of Differential Equations** **261** (2016), 1099–1114.
17. D. Ionescu-Kruse, *Instability of equatorially trapped waves in stratified water*, **Annali di Matematica Pura ed Applicata** **195** (2016), 585–599.
18. D. Ionescu-Kruse, *An exact solution for geophysical edge waves in the  $f$ -plane approximation*, **Nonlinear Analysis: Real World Applications** **24** (2015), 190–195.
19. D. Ionescu-Kruse, *An Exact Solution for Geophysical Edge Waves in the  $\beta$ -Plane Approximation*, **Journal of Mathematical Fluid Mechanics** **17** (2015), 699–706.
20. D. Ionescu-Kruse, *Short-wavelength instabilities of edge waves in stratified water*, **Discrete and Continuous Dynamical Systems A** **35** (2015), 2053–2066.
21. D. Ionescu-Kruse, *A new two-component system modelling shallow-water waves*, **Quarterly of Applied Mathematics** **73** (2015), 331–346.
22. D. Ionescu-Kruse, *On Pollard's wave solution at the Equator*, **Journal of Nonlinear Mathematical Physics** **22** (2015), 523–530.
23. D. Ionescu-Kruse, *Instability of edge waves along a sloping beach*, **Journal of Differential Equations** **256** (2014), 3999–4012.
24. D. Ionescu-Kruse, *On the small-amplitude long waves in linear shear flows and the Camassa-Holm equation*, **Journal of Mathematical Fluid Mechanics** **16** (2014), 365–374.
25. D. Ionescu-Kruse, A. Matioc, *Small-amplitude equatorial water waves with constant vorticity: dispersion relations and particle trajectories*, **Discrete and Continuous Dynamical Systems A** **34** (2014), 3045–3060.

26. D. Ionescu-Kruse, *On the particle paths and the stagnation points in small-amplitude deep-water waves*, **Journal of Mathematical Fluid Mechanics** **15** (2013), 41–54.
27. D. Ionescu-Kruse, *Variational derivation of two-component Camassa-Holm shallow water system*, **Applicable Analysis** **92** (2013), 1241–1253.
28. D. Ionescu-Kruse, *Variational derivation of the Green-Naghdi shallow-water equations*, **Journal of Nonlinear Mathematical Physics** **19** (2012), art. no.: 1240001.
29. D. Ionescu-Kruse, *Elliptic and hyperelliptic functions describing the particle motion beneath small-amplitude water waves with constant vorticity*, **Communications on Pure and Applied Analysis** **11** (2012), 1475–1496.
30. D. Ionescu-Kruse, *Peakons arising as particle paths beneath small-amplitude water waves in constant vorticity flows*, **Journal of Nonlinear Mathematical Physics** **17** (2010), 415–422.
31. D. Ionescu-Kruse, *Small-amplitude capillary-gravity water waves: Exact solutions and particle motion beneath such waves*, **Nonlinear Analysis: Real World Applications** **11** (2010), 2989–3000.
32. D. Ionescu-Kruse, *Exact solutions for small-amplitude capillary-gravity water waves*, **Wave Motion** **46** (2009), 379–388.
33. D. Ionescu-Kruse, *Particle trajectories beneath small amplitude shallow water waves in constant vorticity flows*, **Nonlinear Analysis** **71** (2009), 3779–3793.
34. D. Ionescu-Kruse, *Particle trajectories in linearized irrotational shallow water flows*, **Journal of Nonlinear Mathematical Physics** **15** (2008), 13–27.
35. D. Ionescu-Kruse, *Variational derivation of the Camassa-Holm shallow water equation with non-zero vorticity*, **Discrete and Continuous Dynamical Systems A** **19** (2007), 531–543.
36. D. Ionescu-Kruse, *Liapunov's direct method for Birkhoffian systems: Applications to electrical networks*, **Journal of Geometry and Physics** **57** (2007), 2213–2228.
37. D. Ionescu-Kruse, *Variational derivation of the Camassa-Holm shallow water equation*, **Journal of Nonlinear Mathematical Physics** **14** (2007), 303–312.
38. D. Ionescu, J. Scheurle, *Birkhoffian formulation of the dynamics of LC circuits*, **Zeitschrift für angewandte Mathematik und Physik** **58** (2007), 175–208.
39. D. Ionescu, *A geometric Birkhoffian formalism for nonlinear RLC networks*, **Journal of Geometry and Physics** **56** (2006), 2545–2572.
40. D. Ionescu, *The Gravitational Field of an Electrically Charged Mass Point and the Causality Principle in RTG*, **Theoretical and Mathematical Physics** **136** (2003), 1177–1187.
41. D. Ionescu, *Comparative Analysis of the Electrogravitational Kepler Problem in GRT and RTG*, **International Journal of Non-Linear Mechanics** **38** (2003), 1251–1268.

42. D. Ionescu, *Can the Notion of a Homogeneous Gravitational Field be Transferred from Classical Mechanics to the Relativistic Theory of Gravity?*, **Theoretical and Mathematical Physics** **130** (2002), 287–297.
43. D. Ionescu, E. Soós, *Simultaneity and non-holonomy*, **Annals of the University of Timișoara, Mathematics and Computer Science series** **39** (2001).
44. D. Ionescu, E. Soós, *Electrogravitational Field Produced by a Charged Mass Point in RTG*, **Revue Romaine de Mathématiques Pures et Appliqués** **45** (2000), 251–260.

### Conference proceedings

1. D. Ionescu-Kruse, *The Camassa-Holm equation modelling shallow water waves over a constant vorticity flow*, **Proceedings of the 6-th Congress of Romanian Mathematicians**, Publishing House of the Romanian Academy (2007), vol. 1, 511–519, ISBN: 978-973-27-1781-3/v.1.
2. D. Ionescu, *A geometric modelling of nonlinear RLC networks*, **Proceedings in Applied Mathematics and Mechanics (PAMM)** **6** (2006), 813–814, WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim, ISSN: 1617-7061.
3. D. Ionescu, *Geometric modelling of the dynamics of electrical circuits*, **Modern Trends in Geometry and Topology, Deva 5–11 September 2005**, Editors: Dorin Andrica, Paul A. Blaga, Sergiu Moroianu, Cluj University Press (2006), 215–229, ISBN: 973-610-429-X;978-973-610-429-9.
4. D. Ionescu, E. Soós., *Consequences of the Causality Principle in the Relativistic Theory of Gravitation*, **Proceedings of the XXIII International Workshop on High Energy Physics and Field Theory, Protvino (Russia), June 21-23 (2000)**, 180–190, ISBN: 5-88738-038-1.