

## ***Principal publications\****

*Papers in the international peer-reviewed scientific journals:*

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- 3.V. Ogievetsky and V. Zeitlin , Unified gauge theories with stable proton - 1978, Sov. J. Nucl.Phys. **28**, p.1616 -1630.
- 4.R. Lednitsky and V. Zeitlin, Neutral currents problem in the unified theory -1979, Sov.J. Nucl. Phys. **31**, p.1036 -1047.
- 5.R. Lednitsky and V. Zeitlin , Neutral currents in theory of grand unification -1979, Phys. Letters B **88**, p.302 – 306.
- 6.R. Lednitsky and V. Zeitlin , The Weinberg - Salam model and grand unification -1979, JETP Letters **30**, p.354 – 356.
- 7.V. Zeitlin, On internal gravity waves propagation in stratified medium with shear - 1982, Izvestiya: Atm. Ocean Physics **18**, p.145 - 152.
- 8.N. Romanova and V. Zeitlin, The evolution of a non-linear wave-train in a stratified shear flow which is losing its stability - 1983, Izvestiya: Atm. Ocean Physics **19**, p.600 - 606.
- 9.N. Romanova and V. Zeitlin, On quasi-geostrophic motions in barotropic and baroclinic fluids - 1984, Izvestiya, Atm. Ocean Physics **20**, p.85 - 91.
- 10.N. Romanova and V. Zeitlin, Solitary Rossby waves in a weakly stratified medium - 1985, Izvestiya: Atm. Ocean Physics **21**, p.627 - 630.
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- 14.V. Zeitlin, Hamiltonian formalism for Rossby waves - 1989, Izvestiya: Atm. Ocean Physics **25**, p.948 – 954.
- 15.V. Zeitlin, On algebraization of 2-D ideal fluid hydrodynamical systems and their finite-mode approximations - 1990, *Advances in Turbulence*, **3**, p.257 -260, (A.V. Johansson and P.H. Alfredsson eds, Springer).
- 16.V. Zeitlin, Finite-mode analogs of 2-D ideal hydrodynamics: co-adjoint orbits and local canonical structure - 1991, Physica D, **49**, p.353 – 362.
- 17.V. Zeitlin, On the back-reaction of acoustic radiation for distributed vortex structures - 1991, Phys. Fluids A **3**, p. 1677 -1680.
- 18.V. Zeitlin, On the structure of the phase-space, Hamiltonian variables and statistical approach to description of the 2- dimensional hydrodynamics and magnetohydrodynamics - 1992, J. Phys. A **25**, p. L171 -175.
- 19.V. Zeitlin, Vorticity and waves: geometry of phase-space and the problem of normal variables - 1992, Phys. Letters A **164**, p. 177 -183.
- 20.B. Legras and V. Zeitlin, Conformal dynamics for vortex motions - 1992, Phys. Letters A **167**, p. 265 -268.
- 21.V. Zeitlin and T. Kambe , 2-dimensional ideal magnetohydrodynamics and differential geometry - 1993, J. Phys. A **26**, p. 5025 – 503.

- 22.V.Zeitlin and R. Pasmanter , On the differential geometry approach to geophysical flows -1994, Phys. Letters A **189**, p. 59 - 63.
- 23.A. Stegner and V. Zeitlin, What can asymptotic expansions tell us about large-scale quasi-geostrophic vortices? - 1995, Nonlin. Proc. Geophys. **2**, p. 186 - 193.
- 24.S. Daubner and V. Zeitlin, On the Kolmogorov spectra for unidirectional internal gravity waves - 1996, Phys. Letters A **214**, p.33-39 .
- 25.S. Edouard , B. Legras and V. Zeitlin, The effect of dynamical mixing in a simple model of the ozone hole -1996, J. Geoph. Res. D **101**, p. 16771- 16778.
- 26.A. Stegner and V. Zeitlin, Asymptotic expansions and monopolar solitary Rossby vortices in barotropic and two-layer models - 1996, Geoph. Astroph. Fluid Dyn. **83**, p. 159-194.
- 27.R.I. McLachlan, I. Szunyogh and V. Zeitlin, Hamiltonian finite-dimensional models of the baroclinic instability - 1997, Phys. Letters A **229**, p. 299-305.
- 28.A. Stegner and V. Zeitlin, From quasi-geostrophic to large scale monopolar vortices in a paraboloidal shallow water experiment - 1998, J. Fluid Mech. **356**, p. 1-24.
- 29.D.D. Holm and V. Zeitlin, Hamilton's principle for quasi-geostrophic dynamics - 1998, Phys. Fluids **10**, p. 800-806.
- 30.F. Dupont, R.I. McLachlan and V. Zeitlin, On a possible mechanism of anomalous diffusion by resonant triads of Rossby waves - 1998, Phys. Fluids **10**, p. 3185 – 3193.
- 31.A. Stegner and V. Zeitlin, Vortex solitons in stably stratified differentially rotating fluid -1999, IMA Series in Applied Mathematics, Oxford University Press, **63**, p. 309 –321.
- 32.M. Ben Jelloul and V. Zeitlin, On the nonlinear stability of large -scale vortices in rotating shallow water and descendant balanced models - 1999, Nuovo Cimento C , **22**, p. 931 – 941.
- 33.P. Caillol and V. Zeitlin, Kinetic equations and stationary energy spectra of internal gravity waves in flows with and without mean potential vorticity - 2000, Dyn. Atmos. Oceans, **32**, p. 81 – 112.
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- 36.V. Zeitlin, S. Medvedev and R. Plougonven, Frontal adjustment, slow manifold and nonlinear wave phenomena in 1d rotating shallow water. Part 1. Theory - 2003, J. Fluid Mech., **481**, p. 269 – 290.
37. V. Zeitlin, G. Reznik and M. Ben Jelloul, Nonlinear theory of the geostrophic adjustment. Part.II : Two-layer and continuously stratified models - 2003, J. Fluid Mech., **491**, p. 207 – 228.
- 38.J. Le Sommer, S. Medvedev , R. Plougonven and V. Zeitlin, Singularity formation during relaxation of jets and fronts toward the state of geostrophic equilibrium - 2003, Commun. Nonlin. Sci. & Num. Simulations , **8**, p. 415 – 442.
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40. R. Plougonven, H. Teitelbaum and V. Zeitlin, Inertia-gravity wave generation by the tropospheric mid-latitude jet from FASTEX radiosoundings - 2003, J. Geoph. Res. D, **D21**, 4686, p. 14-1 – 14-18.
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### *Monographs*

- 106.V. Zeitlin “Nonlinear dynamics of rotating shallow water: methods and advances”, 2007, Elsevier, 393pp. – *editor and author/coauthor of 3 chapters of 6.*
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121. M. Rostami and V. Zeitlin, Understanding dynamics of large-scale atmospheric vortices with moist-convective rotating shallow water model, Proceedings of the 5<sup>th</sup> International Conference on mathematical Modelling in Physics, Athens, 2016, E.C. Vagenas and D.S. Vlachos, ed. J. Phys. C, **738**, 012055.
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\*) The spelling of my name in publications submitted from ex-USSR or translated from Russian varied: TZEITLIN, TSEYTLIN, ZEITLIN. .

\*\*\*) Extended abstracts /proceedings published without proper reviewing process are not included