

Curriculum Vitae



Alexander Grigorievich OSTROVSKII

Affiliation:

Leading Scientist and Head of Laboratory of Ocean Acoustics
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Date of Birth:

April 20, 1957

Place of Birth:

Moscow, USSR

Permanent Address:

Tsyurupy str., 18-1-267
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Educational background:

Post-graduate, Oceanology Chair
Moscow State University, 10/16/1979 -10/16/1982

Student, Oceanology Chair
Moscow State University, 09/01/1974 -07/31/1979

High school #193 of Moscow on 06/20/1974.

Professional qualifications:

Ph.D., Oceanology; 11/02/1983; Ph. D. Thesis title: Principles of the Sea Surface Temperature Variability in the North Atlantic

M.Sc., Oceanology; 05/20/1979; M. Sc. Thesis title: The ocean response on the hurricane Ella

Professional experience:

01/01/2012 - Present: Vice Director
Aqualog Ltd.,
Moscow, Russia

01/05/2009 - 12/12/2011 Co-Founder, Director
Aqualog Ltd.,
Moscow, Russia

01/04/2015 - Present: Head
Laboratory of Acoustics of the Ocean
P.P.Shirshov Institute of Oceanology
Russian Academy of Sciences
Moscow, Russia

05/02/2009 - 31/03/2015: Leading Scientist
Laboratory of Experimental Physics of the Ocean
P.P.Shirshov Institute of Oceanology
Russian Academy of Sciences
Moscow, Russia

01/09/2008 - Present: Project Manager
Experimental Design Bureau of Oceanological Engineering
Russian Academy of Sciences
Moscow, Russia

07/07/2007 - 31/01/2008 and 01/06/2008-31/08/2008: Visiting Professor
Research Institute for Applied Mechanics
Kyushu University
Kasuga, Japan

05/01/2003 - 05/02/2009: Senior Scientist
Laboratory of Experimental Physics of the Ocean
P.P.Shirshov Institute of Oceanology
Russian Academy of Sciences
Moscow, Russia

05/03/2002 - 04/30/2003: Visiting Professor
Physical Oceanography Group
Centre Mediterrani d'Investigacions Marines i Ambientals (CMIMA)
CSIC, Barcelona, Spain

04/01/2001 - 04/30/2002: Senior Scientist
Department of Experimental and Satellite Oceanology
P.P.Shirshov Institute of Oceanology of
Russian Academy of Sciences
Moscow, Russia

08/01/1999 - 03/31/2001: Group Leader, Frontier Observational
Research System for Global Change, JAMSTEC, Tokyo, Japan

02/01/1997 - 01/08/1998: Visiting Senior Scientist
Department of Experimental and Satellite Oceanology
P.P.Shirshov Institute of Oceanology of
Russian Academy of Sciences
Moscow, Russia

04/01/1992 - 03/31/1999: Associate Professor
Division of Ocean Boundary Dynamics

Research Institute for Applied Mechanics
Kyushu University
Kasuga, Japan

10/01/1991 – 03/03/1992: Visiting Scientist, JSPS Postdoctoral
Fellow
Department of Earth and Planetary Physics
Faculty of Science
University of Tokyo
Tokyo, Japan

03/04/1991 – 09/30/1991: Visiting Scientist, JSPS Postdoctoral
Fellow
Division of Ocean Boundary Dynamics
Research Institute for Applied Mechanics
Kyushu University
Kasuga, Japan

01/01/1987 – 03/03/1991: Research Scientist
Department of Experimental and Satellite Oceanology
P.P.Shirshov Institute of Oceanology
The Academy of Sciences of the USSR
Moscow, USSR

07/06/1984 – 12/31/1986: Junior Scientist
Department of Experimental and Satellite Oceanology
P.P.Shirshov Institute of Oceanology
The Academy of Sciences of the USSR
Moscow, USSR

12/06/1982 – 07/06/1984: Junior Scientist
Laboratory of Climate
P.P.Shirshov Institute of Oceanology
The Academy of Sciences of the USSR
Moscow, USSR

Research Interests:

Research and development of the new underwater moored profiles: Aqualog, Winchi, and the ice tethered profiler. These devices are essentially the carriers of various environmental probes such as SBE 52MP CTD, Nortek Aquadopp current meter, AANDERAA oxygen optode sensor, and other sensors, which are broadly used by the oceanographic community. While moving up and down between the sea surface and the bottom at pre-defined time intervals, the sensors make measurements and collect vertical profiles of various parameters. By now, two prototype models were built and several pilot experiments were carried out at the Black, Baltic, Japan, Mediterranean, Kara, and Caspian Seas in 2010-2019. The profilers are suitable for environmental monitoring of offshore oil and gas explorations, such as oil platforms at the sea shelf.

Field projects (past 12 years)

Black Sea	2007~	RAS / Ministry of Education and Science, Russia
Japan Sea	2010	Fund for Support of Small Innovative Businesses, Russia
Baltic Sea	2010~	Russian Fund for Basic Research
Red Sea	2011-2013	Jerusalem University, Israel
Mediterranean Sea	2011	Oceanographic Center, Republic of Cyprus
Kara Sea	2011	Russian Academy of Sciences
Mediterranean Sea	2012	Institut Sciences del Mar, Spain / RFBR
Japan Sea	2012	Oceantech Co., Republic of Korea

Dead Sea	2012~2013	Geological Service of Israel, Israel
Baltic Sea	2012	Russian State Hydrometeorological University
Mediterranean Sea	2012	Laboratoire de Villefranche, France
Black Sea	2012~2014	PERSEUS project, EU FP6
Black Sea	2013-2014	Ministry of Industry and Trade, Russia
Mediterranean Sea	2013	IMEDEA, Institut Mediterrani d'Estudis Avançats, Spain
Japan Sea	2013-2017	Korea Institute of Ocean Science and Technology, Korea
Mediterranean Sea	2014	Institut Sciences del Mar, Spain
Arabian Sea	2015-2016	University of Plymouth, UK

Current research grants

Russian Fund for Basic Research 19-05-00459 Short-period variability in the aerobic zone and its influence on the oxygen inventory in the Black Sea slope water, PI, 2019-2021

Russian Fund for Basic Research 19-45-230012 Hypoxia in the shelf waters of the northeastern Black Sea, PI, 2019-2021

Russian Fund for Basic Research 18-05-60124 Development of scientific and technical foundations of an automated operational system for monitoring ice cover, the near-ice layer of air and the active layer of the ocean in the Arctic, 2019-2021

Major publications since 1995

1. A. G. Ostrovskii, and L. I. Piterbarg

Inversion for the heat anomaly transport from the SST time series in the Northwestern Pacific,
Journal of Geophysical Research, Oceans, 1995, 100, NC3, 4845-4865.

2. A. G. Ostrovskii

Wavelet analysis of NOAA AVHRR multichannel surface temperature of the Japan Sea.

In: Global Process Monitoring and

Remote Sensing of the Ocean and Sea Ice, Eds.: D. W. Deering and P. Gudmandsen, Proceedings EUROPTO Ser., 2586, 1995, 2586, 74-85.

3. A. G. Ostrovskii

Signatures of stirring and mixing in the Japan Sea surface temperature patterns in autumn 1993 and spring 1994.

Geophysical Research Letters, 1995, 22, N17, 2357-2360.

4. A. G. Ostrovskii, and L. I. Piterbarg

A new method for obtaining velocity and diffusivity from time-dependent distributions of a tracer via the maximum likelihood estimator for the advection-diffusion equation.

Journal of Computational Physics, 1997, 133, N2, 340-360.

5. A. I. Ginzburg, A. G. Kostianoy, and A. G. Ostrovskii

Surface circulation in the Japan Sea (Satellite information and drifter data).

Issledovanie Zemli iz Kosmosa, 1998, No.1, 66-83 (in Russian, English translation: Sea of Japan circulation (from satellite and drifter data), Earth. Obs. Rem. Sens., 2000, 16, 89-112).

6. M. Takematsu, Z. Nagano, A. G. Ostrovskii, K. Kim, and Yu. Volkov

Direct measurements of deep currents in the northern Japan Sea.

Journal of Oceanography, 1999, 55, 207-216.

7. M. Takematsu, A. G. Ostrovskii, Z. Nagano
Observations of eddies in the Japan Basin Interior.
Journal of Oceanography, 1999, 55, 237-246.
8. T. Setoh, S. Imawaki, A. Ostrovskii, and S. Umatani
Interdecadal variations of ENSO signals and annual cycles
revealed by wavelet analysis,
Journal of Oceanography, 1999, 55, 385-394.
9. Alexander G. Ostrovskii, and Leonid I. Piterbarg
Inversion of upper ocean temperature time series for entrainment,
advection, and diffusivity.
Journal of Physical Oceanography, 2000, 30, 201-214.
10. Naoki Hirose and Alexander G. Ostrovskii
Quasi-biennial variability in the Japan Sea.
Journal of Geophysical Research, 2000, 105, 14011-14027.
11. Arata Kaneko, Alexander Ostrovskii, Alice Stuart-Menteth, Kensuke Takeuchi,
Toshio Yamagata, Jae-Hun Park, Xiao Hua Zhu, Noriaki Gohda, Hiroshi Ichikawa,
Kaoru Ichikawa, Atsuhiko Isobe, Masanori Konda, and Shin-Ichiro Umatani
Acoustic monitoring the Kuroshio Current system.
Journal of Marine Acoustic Society of Japan, 2001, 28, 236-255.
12. Alexander Ostrovskii, Arata Kaneko, Alice Stuart-Menteth, Kensuke Takeuchi,
Toshio Yamagata, Jae-Hun Park, Xiao Hua Zhu, Noriaki Gohda, Hiroshi Ichikawa,
Kaoru Ichikawa, Atsuhiko Isobe, Masanori Konda, and Shin-Ichiro Umatani
Kuroshio Observation Program: Towards real-time monitoring the Japanese coastal
waters. *Ocean and Polar Research*, 2001, 23, 141-160.
13. A.G. Ostrovskii and N.A. Rykov, On the effect of stratification on the
Kuroshio recirculation, *Oceanology*, 2003, 43, No. 4, 465-473.
14. Xiao Hua Zhu, Jae-Hun Park, Arata Kaneko, Kensuke Takeuchi, Noriaki Gohda,
Shin-Ichiro Umatani, Ichikawa, Hiroshi Ichikawa, and Alexander Ostrovskii
The Northeastward Current Southeast of Okinawa Island Observed During November
2000 to August 2001, *Geophysical Research Letters*, *Geophysical Research Letters*,
Vol. 30, No. 2, 1071, doi:10.1029/2002GL015867, 2003.
15. Ostrovskii, A.G., and J. Font, Advection and dissipation rates in the upper
ocean mixed layer heat anomaly budget over the North Atlantic in summer, *Journal
of Geophysical Research - Oceans*, Vol. 108, No. 12, 3376,
doi:10.1029/2003JC001967, 2003.
16. Ivanov, A. and A. Ostrovskii, The satellite radar remote sensing for
monitoring of the offshore oil production and shipment, *Tekhnologii TEK
(Technologies of the Fuel and Energy Complex)*, 2003, No. 6, 58-64 (in Russian).
17. Badulin, S., A. Ivanov, and A. Ostrovskii, An impact of the freak waves on
the industrial safety of the offshore oil production and shipment, *Tekhnologii
TEK (Technologies of the Fuel and Energy Complex)*, 2005, No. 1, 56-64 (in
Russian).
18. Badulin, S., A. Ivanov, and A. Ostrovskii, The remote sensing of the freak
waves in the interests of the fuel and energy complex: methods and
recommendations, *Tekhnologii TEK (Technologies of the Fuel and Energy Complex)*,
2005, No. 3, 76-82 (in Russian).
19. Kulikov, E., A. Ivanov, A. and A. Ostrovskii, The tsunami waves and their
impact on the industrial installations of the Russian fuel and energy complex,

- Tekhnologii TEK (Technologies of the Fuel and Energy Complex), 2005, No. 5, 76-84 (in Russian).
20. Badulin, S.I., A.Yu. Ivanov, and A.G. Ostrovskii, Rogue waves and their remote sensing, *Issledovanie Zemli iz Kosmosa (Earth Research from Space)*, 2006, No. 1, 77-92 (in Russian).
21. Bedritskiy, A., V.V. Asmus, V.A. Krovotyntev, O. Yu. Lavrova, and A.G. Ostrovskii, Satellite Monitoring of the Pollution in the Russian waters of the Black and Azov Seas in 2003-2007, *Meteorology and Hydrology*, 2007, N11, 5-13 (in Russian).
22. Ostrovskii, A. G., A. G. Zatsepin, V. A. Derevnin, S. S. Nizov, S. G. Poyarkov, A. L. Tsybulskiy, and D. A. Shvoev, Moored Automatic Probing System "Aquazond" for Vertical Profiling of the Marine Environment *Oceanology*, 2008, 48, 297-306.
23. Zatsepin, A.G., A. O. Korzh, V. V. Kremenetskii, A. G. Ostrovskii, S. G. Poyarkov and D. M. Solov'ev, Studies of the hydrophysical processes over the shelf and upper part of the continental slope of the Black Sea with the use of traditional and new observation techniques, *Oceanology*, 2008, 48, 510-519.
24. Shcherbak, S. S., Lavrova, O. Y., Mityagina, M. I., Bocharova, T. Y., Krovotyntsev, V. A., Ostrovskii, A. G. Multisensor satellite monitoring of seawater state and oil pollution in the northeastern coastal zone of the Black Sea, *International Journal of Remote Sensing*, 2008, 29, 6331-6345.
25. Bedritskiy, A., V.V. Asmus, V.A. Krovotyntev, O. Yu. Lavrova, and A.G. Ostrovskii 2009 Satellite monitoring of the pollution over the Russian waters in the Azov Sea - Black Sea basin in 2008, *Meteorology and Hydrology*, N11, 5-19 (in Russian).
26. Ostrovskii, A., K. Fukudome, J.-H. Yoon, and T. Takikawa, Variability of the volume transport through the Korea/Tsushima Strait as inferred from the shipborne acoustic doppler current profiler observations in 1997-2007, *Oceanology*, 2009, 49, 338-349.
27. Ostrovskii, A. G., A. G. Zatsepin, V. N. Ivanov, K. G. Kebkal, S. S. Nizov, V. A. Soloviev, G.K. Timashkevich, A. L. Tsybulskiy, and D. A. Shvoev, Ocean moored profiling observatory, *Underwater Investigations and Robotics*, 2009, N2/7, (in Russian).
28. Fukudome, K., J.-H. Yoon, A. Ostrovskii, T. Takikawa, In-Seong Han, Seasonal Volume Transport Variation in the Tsushima Warm Current through the Tsushima Straits from 10 Years of ADCP Observations, *Journal of Oceanography*, 2010, Vol. 66, pp. 539 to 551.
29. V.T. Paka, S.A. Shchuka, A.G. Zatsepin, V.V. Zhmur, V.I. Baranov, A.O. Korzh, A.A. Kondrashov, A.P. Podufalov, D.A. Shvoev, and V.A. Soloviev, Development of Microstructure Measurements for Conditions in the Baltic Sea, *IEEE Xplore / OES Baltic 2010 International Symposium*, August 25- 27 2010, Riga, Latvia.
30. Ostrovskii, A.G., A.G. Zatsepin, The short term variability of hydrophysical and biological processes over the northeastern Black Sea continental slope as inferred from multiparametric profiling surveys. *Ocean Dynamics*, 2011, v. 61, p. 797-806.
31. Zatsepin A. G., V. I. Baranov, A. A. Kondrashov, A. O. Korzh, V. V. Kremenetskii, A. G. Ostrovskii, D. M. Soloviev, Submesoscale Eddies at the

Caucasian Black Sea Shelf and the Mechanisms of Their Generation, *Oceanology*, 2011, v. 51, p. 592-605.

32. Arashkevich E., A. Ostrovskii, V. Solovyev. Observations of water column habitats by combining acoustic backscatter data and zooplankton sampling in the NE Black Sea. 40th CIESM Congress Proceedings, Marseille, France, 28 October - 1 November 2013. 2013. V.40. P.722.

33. Emelianov M., J. Font, P. Puig, J. Martín, E. García Ladona, J. Salat, A. Ostrovskii, A. Zatsepin, V. Kremenetskiy, V. Soloviev, A. Tsibul'skiy and D. Shvoev. A pilot experiment on the temporal variability of the nepheloid and dynamical structures in the Besos Canyon (NW Mediterranean sea). 40th CIESM Congress Proceedings, Marseille, France, 28 October - 1 November 2013. 2013. V.40. P.135.

34. Zatsepin A.G., A.G. Ostrovskii, V.V. Kremenetskiy, V.B. Piotukh, S.B. Kuklev, L.V. Moskalenko, O.I. Podymov, V.I. Baranov, A.O. Korzh, and S.V. Stanichny. On the Nature of Short Period Oscillations of the Main Black Sea Pycnocline, Submesoscale Eddies, and Response of the Marine Environment to the Catastrophic Shower of 2012. *Izvestiya, Atmospheric and Oceanic Physics*, 2013, Vol. 49, No. 6, pp. 659-673. DOI: 10.1134/S0001433813060145.

35. A.G. Zatsepin, A.G. Ostrovskii, V.V. Kremenetskiy, S.S. Nizov, V.B. Piotukh, V.A. Soloviev, D.A. Shvoev, A.L. Tsibul'skiy, S.B. Kuklev, O.N. Kukleva, L.V. Moskalenko, O.I. Podymov, V.I. Baranov, A.A. Kondrashov, A.O. Korzh, A.A. Kubryakov, D.M. Soloviev, and S.V. Stanichny. Subsatellite Polygon for Studying Hydrophysical Processes in the Black Sea Shelf-Slope Zone. *Izvestiya, Atmospheric and Oceanic Physics*, 2014, Vol. 50, No. 1, pp. 13-25. DOI: 10.1134/S0001433813060157.

36. Ostrovskii A.G., A.G. Zatsepin. Intense ventilation of the Black Sea pycnocline due to vertical turbulent exchange in the Rim Current area. *Deep-Sea Research I Oceanographic Research Papers*. 2016. V.116. P.1-13. DOI: 10.1016/j.dsr.2016.07.011.

37. Solé J., M. Emelianov, A. Ostrovskii, P. Puig, E. García-Ladona. Fine-scale water mass variability inside a narrow submarine canyon (the Besòs Canyon) in the NW Mediterranean Sea. *Scientia Marina*. 2016. V. 80S1(S1). DOI: 10.3989/scimar.04322.05A.

38. A.G. Zatsepin, D.N. Elkin, A.O. Korzh, S.B. Kuklev, O.I. Podymov, A.G. Ostrovskii, D.M. Soloviev. On Influence of Current Variability in the Deep Black Sea upon Water Dynamics of Narrow North Caucasian Continental Shelf. *Physical Oceanography*. 2016. NO. 3. P. 14-22.

39. Klyuvitkin A.A., A.G. Ostrovskii, A.N. Novigatskii, and Academician A.P. Lisitzin. Multidisciplinary Experiment on Studying Short-Period Variability of the Sedimentary Process in the Northeastern Part of the Black Sea. *Doklady Earth Sciences*, 2016, Vol. 469, Part 1, pp. 771-775. DOI: 10.1134/S1028334X16070230.

40. O.I. Podymov, A.G. Zatsepin, A.G. Ostrovsky. Vertical turbulent exchange in the Black Sea pycnocline and its relation to water dynamics. *Oceanology*, 2017, Vol. 57, 4, pp 492-504, <https://doi.org/10.1134/S0001437017040142>

41. A.N. Morozov, A.G. Zatsepin, S.B. Kuklev, A.G. Ostrovskii, S.V. Fedorov. Vertical structure of currents in the upper part of the continental slope of the Black Sea in the Region of Gelendzhik. *Izvestiya, Atmospheric and Oceanic Physics*, 2017, Vol. 53, 6, pp 632-640, <https://doi.org/10.1134/S0001433817060093>

42. D.N. Elkin, A.G. Zatsepin, O.I. Podymov, A.G. Ostrovskii. Sinking of less dense water in the bottom Ekman layer formed by a coastal downwelling current over a sloping bottom. *Oceanology*, 2017, Vol. 57, 4, pp 478-484, <https://doi.org/10.1134/S0001437017040051>

43. Ostrovskii A. G., Zatsepin A. G., Solovyev V. A., Soloviev D. M. The short timescale variability of the oxygen inventory in the NE Black Sea slope water // *Ocean Science*. 2018. Vol. 14. P. 1567-1579. DOI: 10.5194/os-14-1567-2018

44. Trusenkova, O.O., Ostrovskii, A.G., Lazaryuk, A.Yu., Dubina, V.A., Lobanov, V.B. Water exchange off the southern Primorye coast in the Japan Sea from satellite imagery and long-term in situ measurements. *Sovremennye problemy distantsionnogo zondirovaniya Zemli iz kosmosa*, 2019, Vol. 16, No. 2, pp. 196-206. DOI: 10.21046/2070-7401-2019-16-2-196-206.

45. Fayman P., Ostrovskii A., Lobanov V., Park J.-H., Park Y.-G., Sergeev A. Submesoscale eddies in Peter the Great Bay of the Japan/East Sea in winter // *Ocean Dynamics*. 2019. Vol. 69, 4, pp. 443-462. DOI: 10.1007/s10236-019-01252-8

46. A. A. Klyuvitkin, A. G. Ostrovskii, Academician of the RAS A. P. Lisitzin, Correspondent Member of the RAS S. K. Konovalov. THE ENERGY SPECTRUM OF THE CURRENT VELOCITY IN DEEP PART OF THE BLACK SEA. *Doklady Earth Sciences*, 2019 (in press).

Books and chapters:

L. I. Piterbarg, and A. G. Ostrovskii, *Advection and Diffusion in Random Media, Implications for Sea Surface Temperature Anomalies*. Kluwer Academic Publishers, Dordrecht-Boston-London, 1997, 330 pp.

Ostrovskii, Alexander G., Andrey G. Zatsepin, Dmitry A. Shvoev, Vladimir A. Soloviev, *Underwater Anchored Profiler Aqualog for Ocean Environmental Monitoring*. *Advances in Environmental Research*, Vol. 4, Editor: Justin A. Daniels, Nova Science Publishers, Inc., ISBN: 978-1-61668-169-2, 2010, pp. 179-196

Carlson, D.F., Ostrovskii, A., Kebkal, K., Gildor, H. *Moored automatic mobile profilers and their applications*. In: Oren, G. (Ed.), *Advances in Marine Robotics*. 2013. Lambert Academic Publishing.

Major patents:

Ostrovskii A.G., Ledenev V.V., Shvoev D.A. Autonomous drifting profiling oceanologic buoy. RU2609849C1

Ostrovskij Aleksandr Grigorevich, Shvoev Dmitriy Anatolevich. Underwater winch probe. RU2642677C1

Ostrovskij Aleksandr Grigorevich, Olenin Anton Leonidovich. Zooplankton video recorder. RU2670713C1