

# **The Ocean in Motion**

## **Circulation, Waves, Polar Oceanography**

### **Contents**

Front Matter	Pages i-ix
<b>Personal Reminiscences.</b>	
Front Matter.	Pages 1-1
Manuel G. Velarde, Roman Yu. Tarakanov, Alexey V. Marchenko. Honorary Note. Evgeny Georgievich Morozov: A Life at Sea as a Devoted Ocean Observer.	Pages 3-6
Manuel G. Velarde, Roman Yu. Tarakanov, Alexey V. Marchenko. Gallery: An Ocean Scientist and His Life at Sea.	Pages 7-13
Victor G. Neiman. New Steps of the Modern Oceanography: Reminiscences of My Work with Evgeny Georgievich Morozov.	Pages 15-17
Boris N. Filyushkin. Fifty Years of Collaboration with Evgeny Georgievich Morozov.	Pages 19-20
<b>Scientific Contributions: Internal and Surface Waves.</b>	
Front Matter.	Pages 21-21
Roger Grimshaw, Chunxin Yuan. Internal Undular Bores in the Coastal Ocean.	Pages 23-39
John Grue. Calculating FRAM's Dead Water.	Pages 41-53
Nikolay Makarenko, Janna Maltseva, Roman Tarakanov, Kseniya Ivanova. Internal Solitary Waves in a Layered Weakly Stratified Flow.	Pages 55-66
Valerii G. Bondur, Yuliya I. Troitskaya, Ekaterina V. Ezhova, Vasiliy I. Kazakov, Alexandre A. Kandaurov, Daniil A. Sergeev et al.. Surface Manifestations of Internal Waves Induced by a Subsurface Buoyant Jet (Experiment and Theory).	Pages 67-85
Valery Liapidevskii, Nikolay Gavrilov. Large Internal Solitary Waves in Shallow Waters.	Pages 87-108
Vitaly V. Bulatov, Yury V. Vladimirov. Internal Gravity Waves in Horizontally Inhomogeneous Ocean.	Pages 109-126
Hans van Haren. High-Resolution Observations of Internal Wave Turbulence in the Deep Ocean.	Pages 127-146
Leo R. M. Maas, Borja Aguiar-González, Leandro Ponsoni. Deep-Ocean Tides in the South-West Indian Ocean: Comparing Deep-Sea Pressure to Satellite Data.	Pages 147-182
Eugene G. Morozov, Manuel G. Velarde. Internal Tides West of the Iberian Peninsula.	Pages 183-192
Jesús García-Lafuente, Simone Sammartino, José C. Sánchez-Garrido, Cristina Naranjo. Asymmetric Baroclinic Response to Tidal Forcing Along the Main Sill of the Strait of Gibraltar Inferred from Mooring Observations.	Pages 193-210

Andrey N. Serebryany. Mode 2 Internal Waves in the Ocean: Evidences from Observations.	Pages 211-219
T. Dauxois, E. Ermanyuk, C. Brouzet, S. Joubaud, I. Sibgatullin. Abyssal Mixing in the Laboratory.	Pages 221-237
Karsten Trulsen. Rogue Waves in the Ocean, the Role of Modulational Instability, and Abrupt Changes of Environmental Conditions that Can Provoke Non Equilibrium Wave Dynamics.	Pages 239-247
Ivan Gankevich, Alexander Degtyarev. Simulation of Standing and Propagating Sea Waves with Three-Dimensional ARMA Model.	Pages 249-278
Irina A. Soustova, Konstantin A. Gorshkov, Alexey V. Ermoshkin, Lev A. Ostrovsky, Yuliya I. Troitskaya. Perturbation Theory for the Compound Soliton of the Gardner's Equation; Their Interaction and Evolution in a Media with Variable Parameters.	Pages 279-293

## **Scientific Contributions: Ocean Circulation.**

Front Matter.	Pages 295-295
Gregory M. Reznik. Geostrophic Adjustment Beyond the Traditional Approximation.	Pages 297-331
Boris N. Filyushkin, Mikhail A. Sokolovskiy, Konstantin V. Lebedev. Evolution of an Intrathermocline Lens over the Lofoten Basin.	Pages 333-347
Victor G. Neiman, Vladimir I. Byshev, Yury A. Romanov, Ilya V. Serykh. The Global Atmosphere Oscillations in the Context of the Recent Climate Change.	Pages 349-360
R. Yu. Tarakanov. Influence of the Current Field Non-stationarity and the Non-simultaneity of Hydrographic Measurements on ADCP-based Transport Estimates.	Pages 361-396
<b>Andrey G. Kostianoy, Anna I. Ginzburg, Olga Yu. Lavrova, Marina I. Mityagina. Satellite Remote Sensing of Submesoscale Eddies in the Russian Seas.</b>	<b>Pages 397-413</b>
Artem Sarafanov, Anastasia Falina, Alexey Sokov, Vyacheslav Zapotylko, Sergey Gladyshev. Ship-Based Monitoring of the Northern North Atlantic Ocean by the Shirshov Institute of Oceanology. The Main Results.	Pages 415-427
Tatiana A. Demidova. Thermohaline Structure and Salt Fingering in the Lomonosov Equatorial Undercurrent as Observed in April 2017.	Pages 429-446
Konstantin P. Belyaev, Ingo Kirchner, Andrey A. Kuleshov, Natalia P. Tuchkova. Numerical Realization of Hybrid Data Assimilation Algorithm in Ensemble Experiments with the MPIESM Coupled Model.	Pages 447-459
Peter O. Zavialov, Alexander S. Izhitskiy, Roman O. Sedakov. Sea of Azov Waters in the Black Sea: Do They Enhance Wind-Driven Flows on the Shelf?.	Pages 461-474
Dmitry I. Frey, Vladimir V. Fomin, Roman Yu. Tarakanov, Nikolay A. Diansky, Nikolay I. Makarenko. Bottom Water Flows in the Vema Channel and over the Santos Plateau Based on the Field and Numerical Experiments.	Pages 475-485
Konstantin V. Lebedev. Modeling Study of the Antarctic Circumpolar Current Variability Based on Argo Data.	Pages 487-493
Albert K. Ambrosimov, Dmitry I. Frey, Sergey M. Shapovalov. Tareev Equatorial Undercurrent in the Indian Ocean.	Pages 495-499

Gleb G. Panteleev, Max Yaremchuk, Vladimir Luchin, Oceana Francis. The Bering Sea  
Regional Data Assimilation System: From Climate Variability to Short Term Hindcasting. Pages 501-517

Alexei Sentchev, Max Yaremchuk, Maxime Thiébaut. Monitoring Strong Tidal Currents in  
Straits and Nearshore Regions. Pages 519-535

## Scientific Contributions: Arctic Oceanography.

Front Matter. Pages 537-537

Aleksey Marchenko. Analytical Solutions Describing Zonal and Circular Wind Drift of Sea  
Ice with Elastic-Plastic Rheology. Pages 539-557

Nikolay G. Iakovlev. Arctic Ocean Modeling: The Consistent Physics on the Path to the  
High Spatial Resolution. Pages 559-567

Oxana E. Kurkina, Tatiana G. Talipova, Efim N. Pelinovsky, Andrey A. Kurkin. Numerical  
Modeling of Internal Wave Generation at High Latitudes. Pages 569-580

Sergey V. Pisarev. Internal Wave Frequency Spectrum in the Amundsen Basin of the Arctic  
Ocean Inferred from Ice Tethered CTD Instruments. Pages 581-590

Marina Karulina, Alexey Marchenko, Alexandr Sakharov, Evgeny Karulin, Peter  
Chistyakov. Experimental Studies of Sea and Model Ice Fracture Mechanics. Pages 591-610

Peter V. Bogorodskii, Andrey V. Pnyushkov, Vasilii Yu. Kustov. Seasonal Freezing of a  
Subwater Ground Layer at the Laptev Sea Shelf. Pages 611-625