



POLISH ACADEMY OF SCIENCES
POLISH NAVIGATION FORUM



eISSN 2300-6633

ANNUAL of NAVIGATION

No. 24

2017

Programme Council

Stanisław Oszczak (President), Krzysztof Czaplewski, Daniel Duda, Marek Grzegorzewski, Lucjan Gucma, Stanisław Gucma, Jerzy Hajduk, Michał Holec, Mirosław Jurdziński, Stanisław Kołaczyński, Zdzisław Kopacz, Andrzej Lenart, Bolesław Mazurkiewicz, Janusz Narkiewicz, Bogdan Ney, Cezary Specht, Aleksander Walczak, Bernard Wiśniewski, Adam Weintrit, Zbigniew Wiśniewski, Janusz Zieliński

Frantisek Adamcik (Slovakia), Michael Card (IALA-AISM), Dana Goward (USA), Dorota A. Grejner-Brzezinska (USA), Guenter Hein (Germany), Jung Sik Jeong (Korea), Sergio Camacho Lara (Mexico), David Last (United Kingdom), Bertrand Merminod (Switzerland), Junmin Mou (China), Stajan Petelin (Slovenia), Refaad Rashad (Egypt), Boris Rivkin (Russia), Herman Rohling (Germany), Frantisek Vejrazka (Czech Republic), Peter Voersmann (Germany), Mario Vultaggio (Italy), Nick Ward (United Kingdom)

Reviewers of this issue

Barlik M., Jurdziński M., Karpiński J., Kołaczyński S., Kosmowski K., Łapa A., Montewka J., Naus K., Pietrzykowski Z., Szymak P., Śniegocki H., Walczak A., Wąż M., Wielgosz P., Wiśniewski Z., Zieliński J.B., Żadkowska M.

Baylon A., Batista M., Cefallo R., Demina I., Goerlant F., Grant A., Jeong J.K., Kurdel P., Matzka J., Mou J., Mudronia L., Perkovic M., Stamenov B., Vejrazka F., Wigley R.

Editorial Board

Editor in Chief: Andrzej Felski

Associate Editors: Andrzej Banachowicz, Janusz Ćwiklak, Dariusz Gotlib, Janusz Uriasz, Kazimierz Szczepański

Executive Editor: Beata Różańska

Mailing Address: Institute of Navigation and Maritime Hydrography AMW
69 Śmidowicza Str.
81-127 Gdynia
a.felski@amw.gdynia.pl

Published in affiliation with the Gdańsk Branch of the Polish Academy of Sciences

We are indexed by BazTech, Celdes, CNPIEC, DOAJ, EBSCO, Google Scholar, Index Copernicus, J-Gate, Naviga, Exlibris, Summon, TEMA, WorldCat

Citation

When citing papers from this volume the following reference should be used:
Author(s), Title, Annual of Navigation, 2017, No. 24

CONTENS

COMPUTATIONAL AND STATISTICAL ASPECTS OF DETERMINING SHIP'S POSITION <i>by ANTONI DRAPELA, WACŁAW MORGAS</i>	5
MAGNETIC REPEAT STATION NETWORK ON THE BALTIC SEA – WHO SO NEEDED? <i>by ELŻBIETA WELKER, JAN REDA, ANDRZEJ PAŁKA</i>	19
CURRENT STATE OF ART OF SATELLITE ALTIMETRY <i>by ADAM ŁYSZKOWICZ, ANNA BERNATOWICZ</i>	31
APPLICATION OF DISCRETE CROSS-CORRELATION FUNCTION FOR OBSERVATIONAL-COMPARATIVE NAVIGATION SYSTEM <i>by JAN MATUSZEWSKI, WOJCIECH GRZYWACZ</i>	49
HORIZONTAL ACCURACY ISSUES DURING MBES SURVEYS <i>by DOMINIK IWEN</i>	65
PLANNING GPS MEASUREMENTS OF A LINEAR OBJECT FOR A SPECIFIED TIME INTERVAL <i>by CEZARY SPECHT, MARCIN SKÓRA</i>	75
METHOD FOR RESERVE DETERMINATION OF STATIC AND DYNAMIC LIST OF BULK CARRIERS APPLIED TO THE DYNAMIC UNDER KEEL CLEARANCE SYSTEM IN THE PORT OF ŚWINOUJŚCIE <i>by KINGA DRWIĘGA, LUCJAN GUCMA, RAFAŁ GRALAK</i>	89
THE IMPACT OF DEVELOPED POLINOMINAL ON ACCURACY OF SETTING DOWN A POSITION'S COORDINATES BASED ON MEASUREMENTS OF TWO BEARINGS <i>by ARKADIUSZ NARLOCH, STANISŁAW KOŁACZYŃSKI</i>	103
CAUSES OF SHIPS GROUNDINGS IN TERMS OF INTEGRATED NAVIGATION MODEL <i>by MIROSŁAW JURDZIŃSKI</i>	119
ABPP MOTION SIMULATOR BASED ON 3D ENC <i>by KRZYSZTOF NAUS, PIOTR ZWOLAN</i>	137
METHOD OF ROUTING SHIPS IN DEDICATED ENVIRONMENT <i>by MARCIN ŻYCZKOWSKI</i>	147
PROPOSITION OF IONOSPHERIC GRID IN NAVIGATION SATELLITE SYSTEM BEIDOU <i>by JACEK LAMPARSKI</i>	161

STOCHASTIC MODEL OF SHIPS TRAFFIC CAPACITY AND CONGESTION - VALIDATION BY REAL SHIPS TRAFFIC DATA ON ŚWINOUJŚCIE - SZCZECIN WATERWAY <i>by LUCJAN GUCMA, ANDRZEJ BĄK, SYLWIA SOKOŁOWSKA</i>	177
ASSESSMENT OF POSSIBILITIES TO USE THERMAL IMAGING CAMERAS FOR AIR TRAFFIC CONTROL <i>by JACEK ZALEWSKI, STANISŁAW MILEWSKI, MICHAŁ ZABŁOTNY</i>	193
ANALYSIS OF SHIP TRAFFIC OVER SUBSEA PIPELINE IN THE GDAŃSKA BAY AREA <i>by REMIGIUSZ DZIKOWSKI, KRZYSZTOF MARCJAN</i>	207
DATA EXCHANGE PROTOCOL IN REPSAIL <i>by MACIEJ GUCMA, PAULINA HATŁAS</i>	221
THE BICS - ADVANCED METHOD OF THE ELECTRONIC SHIP REPORTING FOR THE RIS CENTRE <i>by ANDRZEJ LISAJ, ANDRZEJ SMACKI, JANUSZ URIASZ</i>	231
WOMAN ON BOARD - FEMALE PERSPECTIVE <i>by ELWIRA KALKOWSKA</i>	245
CURRENT STATE OF DEEP OCEAN BATHYMETRIC EXPLORATION <i>by KAROLINA ZWOLAK, ANDRZEJ FELSKI</i>	257
THE MODERNIZATION OF THE MRZEZYNO SEAPORT. APPLYING SIMULATION STUDIES TO DEFINE THE VARIANTS OF THE EXPANSION OF THE ENTRANCE BREAKWATER <i>by RENATA BOĆ, LUCJAN GUCMA, ANDRZEJ BĄK</i>	269
APPLICATION OF IGS PRODUCTS FOR AIR NAVIGATION <i>by HENRYK JAFERNIK, JANUSZ ĆWIKŁAK, KAMIL KRASUSKI, JAROSŁAW KOZUBA</i>	285
DETERMINATION OF THE LAST MOMENT MANOEUVRE FOR COLLISION AVOIDING USING STANDARDS FOR SHIPS MANOEUVRABILITY <i>by JOLANTA KOSZELEW, PIOTR WOLEJSZA</i>	301
ANALYSIS OF THE IMPACT OF WEATHER CONDITIONS ON THE EFFECTIVENESS OF OIL SPILL RECOVERY OPERATION IN SIMULATED CONDITIONS (PISCES II) <i>by DOROTA JARZĄBEK, WIESŁAW JUSZKIEWICZ</i>	315
IMPLEMENTATION OF ANTI-COLLISION SYSTEM ON M/F WAWEL <i>by PIOTR WOLEJSZA, JOLANTA KOSZELEW</i>	327