

## ABSTRACT

### NAUTICAL AND MANAGEMENT SCIENCE

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**CURRENT PROBLEMS OF NAVIGATION AND OFFSHORE INDUSTRY IN THE BLACK SEA REGION**

**Abstract:** *The World Ocean ad initio mundi serves to a person as an endless waterway and a source of all sorts of resources. It is difficult to overestimate its influence on civilization development. At the end of XIX century the geographical theory of society development and the stages of civilization evolution were proved in terms of oceans, seas and rivers development in the works of Prof. Lozanskiy, a famous scientist of L.I. Mechnikov University (Illya Illich Mechnikov's brother, Odesa National University was named after him)*

**Keywords:** offshore industry

**VERGIL CHITAC, ALECU TOMA, DINU ATODIRESEI**

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**INTEGRATED MANAGEMENT SYSTEM FOR INTERVENTION IN MARITIME ACCIDENTS AND DISTRESS SITUATIONS ON THE BLACK SEA**

**Abstract:** *Saving of life at sea, represents, according to IMO conventions in the field (SOLAS), the number one priority for the whole maritime industry. To consolidate the safe port status for Romanian harbors at the Black Sea, it is extremely important to take measures to strengthen SAR intervention capabilities and marine depollution, in order to save human lives in danger at sea and the environment protection. An integrated system for management and intervention with specialized forces for maritime accidents and distress situations consists of intervention management center destined for coordination of monitoring activities and intervention, disposition points of forces and means of intervention, an analysis system and real time transmission of the level of pollutants concomitant with intervention to limit their effects and the integrated simulator for driving of watercraft to support the modeling and simulation of emergency situations. The implementation of the system is based on the development of new mathematical models necessary for the analysis and simulation of vessel's reaction, intervention means and equipment under the action of hydro-meteorological factors (wind and waves) for the highly vulnerable areas based on measurements and processing parameters involved in SAR and the dispersion of pollutants (oil and chemical).*

**Keywords:** accidents, distress, management, SAR, depollution

**ALI RIZA İŞİPEK**

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**BLACKSEA ECONOMY AND TURKISH SHIPPING COMPANIES**

**Abstract:** *The maritime industry is an important element of the Black Sea economy. In order to survive in today's competitive environment in this sector, the new requirements have to be met, especially the demand of having **skilled/qualified manpower** and reorganizing themselves to be successful in the world challenging maritime industry. The shipping companies are the leading element of the shipping sector. They play a crucial role in understanding existing and future requirements for national maritime industry and they develop plans, programmes and policies to survive in today's challenging world. The **shipping companies** are the leading actors which drives the shipping sector. And it is clear that organization and management is the key factors which directly affect the success in the business.*

**Keywords:** maritime industry, skilled/qualified manpower, shipping companies

**COSMIN KATONA, SERGIU LUPU, ANDREI POCORA, SERGIU ŞERBAN**

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**ADJUSTING THE MAGNETIC DEVIATION TABLE FOR MK 2000S COMPASS OUTFIT IN EDUCATIONAL PURPOSES**

**Abstract:** *In time as a seafarer the orientation on sea it was a great art of sailing. The historical naval events revealed that the direction in azimuth gained by the navigation instruments should be calibrate appropriate in order to confer the safety at sea. In this purposes the International Maritime Organization recommend safety measures such as a standard for magnetic compass to ensure the steering during a voyage. The purpose of this article is to determine the magnetic deviation table of the MK 2000S Compass Outfit from Lilley & Gillie's company after a detachment of equipment from an initial place to a final destination, comparing this fact with a long stationary during which the ship's diametrically plan position has not changed from the magnetic meridian.*

**Keywords:** navigation instruments, magnetic deviation table, MK 2000S Compass Outfit.

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**EXTERNAL FIRE-FIGHTING SYSTEMS**

**Abstract:** *The offshore industry is considered a field "on steroids" for its fast expansion, largely owned to the ever increasing mankind need of oil and gas. This commercial pressure experience by naval sector has led to shortcuts in the safety of the operations undertaken, thus the recent accidents encountered (i.e. BP Platform in Gulf of Mexico). One major component is the human capital invested and retained within the maritime industry. Present paper-project's aim is to refresh professionals about a crucial system found on board offshore vessels: the external fire fighting systems (Fi-Fi System). Many operators are still in doubt about the correct usage, start-up procedure and monitoring its efficiency. An emergency is not the time for uncertainty, as the situation can escalate from delicate to critical in a short period of time and everyone must be crystal clear on how machinery and equipment works.*

**Keywords:** External Fire-Fighting (Fi-Fi) Systems, Fi-Fi Class Notations, Start-Up Procedure, General Procedure under Operation.

**FILIP NISTOR, CATALIN POPA**

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**THE ROLE OF TRANSPORT IN ECONOMIC DEVELOPMENT**

**Abstract:** *The important relationship between prices and economies of scale has pointed out the importance of transport leading to the introduction of transport activity in economic policy debates. Early years of 20th century reveal a new type of economic analysis of the transport market based on the principle of sustainable development. Transition of transport sector to another level of development has been pursued specific transport market developments by investigating concomitant of economic, environmental and social influences. In the presented paperwork the authors identify role of transport in developing a sustainable economy that will provide, in the near future, new services, ensuring better management and real-time traffic capabilities in order to protect the environment and offer safety.*

**Keywords:** *sustainable development, shipping, economic growth*

**IONUT CRISTIAN SCURTU**

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**OFFSHORE PLATFORM DEVELOPMENT. FOCUS ON SEMISUBMERSIBLES DESIGN**

**Abstract:** *All available resources lead to economic development. Because advancement in drilling and offshore exploration technologies, oil and gas energy systems are the common energy source in the world. The semisubmersibles are available for wind and wave energy extraction and projects like WindFloat are developed to respond to our high energy demand. Wind and waves are sources of green energy and the EU countries are strongly ask for inexpensive and green energy solutions.*

**Keywords:** *Semi-submersible; WindFloat; Wind energy, Ansys mesh.*

**PETRU SERGIU ȘERBAN, COSMIN KATONA, VALERIU NICOLAE PANAITESCU**

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**CASE STUDY OF SHIP TO SHIP INTERACTION USING NTPRO 5000 NAVIGATIONAL SIMULATOR**

**Abstract:** *In the recent years research efforts in ship hydromechanics are devoted to the practical navigation problems in getting larger ships safely into existing harbors, which are usually characterised by narrow and shallow waters. This paper presents a case study of ship to ship interaction between a bulk carrier and an oil tanker passing through a narrow waterway in Suez Canal. This experiment was conducted using a navigation simulator which has the capability to represent the ships' motion, forces and moments that appear on ship's body, very close to reality.*

*There had been studied the ship to ship interaction and also ship squat phenomenon, which, in general, appears in shallow waters navigation, but with a more pronounced effect on canals passage. The results analysis showed that the yaw moment and lateral force are strong enough to veer off course the smaller ship into the adjacent bank. The paper can be useful for ship designers, naval architects and naval officers, who have to know ship to ship interaction effects, in order to prevent any shipping accidents.*

**Keywords:** *interaction, ship squat, canal, ship to ship, simulation.*

**OCTAVIAN TARABUTA, KALIN KALINOV**

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**PERSPECTIVE ON REMODELLING OF TORPEDOES INTO ASW EXERCISE TARGETS**

**Abstract:** *This paper wants to be a thorough analysis of the development of an anti-submarine (ASW) exercise target, from the perspective of the technical management required. Although such ASW exercise targets have been developed for some years as specifically dedicated autonomous underwater vehicles (AUV), an ASW torpedo in the arsenal of the Romanian and Bulgarian Navies is appropriate for remodelling. Its dynamic properties and the propulsion system can be reshaped so that the torpedo would travel slower, but for a longer period of time. These new features match the fundamental requirements of the live ASW training exercises of the specialised vessels (frigates, corvettes, etc.). The authors foresee in this article the possibilities of transformation and the necessary steps for this remodelling.*

**Keywords:** *ASW, exercise, smart defence, torpedo, AUV*