

ABSTRACTS NAVIGATION

ASPECTS ON DESIGNING THE INDUCTION GYROMOTOR WITH A MERCURY LIQUID ARMATURE AS AN ANGULAR MOMENTUM CARRIER

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Abstract: This work presents some considerations related to the determination and calculation of the parameters of gyromotor with double toroidal stator and mercury armature. The determinant parameter which influences the operation of gyromotor is the value of angular momentum determined by the velocity and the mass of mercury used as an angular momentum carrier. After we have determined the manner of choice of the parameters necessary for the design, the equivalent circuits are made. The presence of two inductors disposed on one side and on the other side of the armature as well as the dimension much bigger of air gap between them, the dimension that can be of 10-15 times bigger than at the classical cylindrical asynchronous machines, make that the problem of mutual coupling between the two inductors to be variable and so to be three types of equivalent circuits, depending on the type of magnetic coupling between the inductors. The important remark is that at the gyromotor with bilateral toroidal inductor and mercury disk-armature, the synchronism velocity of induction field depends on the number of poles like at the cylindrical asynchronous machines but having the armature of disk type, the synchronism velocity can also be considered as a synchronous tangential velocity.

ASPECTS ON THE CALCULATION OF REACTANCES OF A TOROIDAL INDUCTOR GYROMOTOR

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Abstract: This work presents some specific aspects on the calculation of reactances of a gyromotor with double toroidal inductor. The first part presents the equivalent circuit of the gyromotor by comparison with the equivalent circuits of a classical asynchronous motor. Taking into account the distance between the inductors, the equivalent circuit was considered for a partial coupling in which the resistance $R'_{21}/2$ was neglected because it had a very low value. Like at the asynchronous induction machines under various operating conditions, the parameters of toroidal inductor gyromotor don't remain constant. So, the total magnetic flux linking the magnetic circuit of the gyromotor can be considered as being the sum of two components: a component linking the threads of mercury fluid of the armature named useful flux; a sum of fluxes which don't link the mercury fluid threads but only their own turns named leakage flux. Each component of the flux has its own magnetizing reactance X_m and leakage reactance X_s which will be determined later on in this work.

ABOUT PORT SECURITY UNDER THREAT OF TERRORISM

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Abstract: International Maritime Organization (I.M.O.) with headquarters in London is an Agency of United Nations Organization which attends to elaboration and implementation of juristic and executive framework considering marine navigation in the international waters. The Committee for Marine Safety of I.M.O. treat problems regarding ships and marine navigation assurance, elaborating and adopting international conventions. One of the most important international conventions elaborated by I.M.O. is The International Convention for Human Life Guarding on the Sea – SOLAS 1974, our country being part of it since 1979. After the events of September 11, 2001, I.M.O. has elaborated and adopted in 2002 "The International Ship and Port Facility Security Code" which is in force since July 1, 2004. In 2002, the ISPS Code is designed to improve security and better protect people and cargo, as well as ports and international shipping, against terrorism. The Code is implemented through Chapter XI-2 „Special Measures to Enhance Maritime Security" in the „International Convention for the Safety of Life at Sea" (SOLAS 1974/1987), being applied by all of the 148 signing states. In essence, the Code ISPS takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each particular case. The aim of the paper is to detail the main objects of ISPS Code, the principal risk factors in ports, the implementation impact and the Code application in Romanian ports.

ABSTRACTS ELECTRICAL ENGINEERING

TEMPORARY-SPATIAL FILTERS WITH REMISSIVE NETWORK

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Abstract: Using a simple lab template and two experimental electronically acoustic processors we demonstrated the transferring of source's position from the underwater environment in acoustic processor's plan on the correlation network. Better results could have been obtained by using acoustic waves on the surface. The results obtained confirm their efficiency in the underwater acoustic domain and the usage of the electronically acoustic processors now and in the future.

THE MATHEMATICAL MODEL AND DATA ACQUISITION OF AN UNDERWATER EXPLOSION

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Abstract: *This report presents the triangulation of the underwater explosion source. The analysis is based on the time-delay measurement the underwater acoustic wave, deriving the range and the direction to the underwater source of explosion. The mathematical model is simulated for different values of the time-delay at three sensors. It was built a practical demonstrator, which gave the possibility to verify in real environment the mathematical model.*

WAVELETS AND IMAGE COMPRESSION

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Abstract: *The main objective of image and video compression algorithms is to compress the image or video data into a compressed representation with constraints imposed by channel bandwidth and storage overhead while maintaining the highest possible quality. The field of image compression is based on a solid foundation of classical methods of transform coding vector quantization and recent advances of wavelet theory. With the advent of ubiquitous internet technologies and multimedia applications new research is needed to invent compression algorithms that meet the challenges of network demands bit rate image quality and transmission delays for real time performance. This paper tries to introduce new image compressing techniques and algorithms because there is no lossy compression method being in the mean time universal and perfect in all possible applications, and therefore there is no unique performances evaluation criteria. The motivation of this is sustained by the necessity of using compression/decompression software structures with wavelet transform algorithms.*

BOOTLOADER SOLUTION FOR XILINX EDK APPLICATIONS ON DIGILENT NEXYS BOARD

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Abstract: *The Digilent Nexys board represents an excellent low-cost solution both for education and research purposes targeting FPGA-based applications The Spartan-3 device featured on the board allows building embedded systems on a Microblaze soft-core processor. This paper presents a memory controller and bootloader solution for the Nexys board memories that allows running embedded software applications above the FPGA Block-RAM (BRAM) memory size. The software is programmed into the Nexys FLASH memory using manual steps. Then a bootloader application from Xilinx is used to load and execute the application stored in the external memory. Aspects regarding memory usage efficiency and code segmentation issues are discussed and further developments are presented.*

APPLICATIONS OF THE SYMBOLIC METHODS TO THE EARTH electrodes Calculation

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Abstract: *In the paper it is presented a modern variant for the electrokinetic field analysis in solid conductors. The study refers to the pace voltage calculations in the case of a few types of the earth electrodes. The symbolic computation methods are utilized, by means of MAPLE program, which permits an accurate analytical calculation and the representation of the suggestive 3D images of the electric field spectrums, respectively, of the voltage funnels. The program can be used for the analysis of any configurations of the earth electrodes, with different shapes.*

DES SOLUTIONS TECHNIQUES POUR L’ACTIONNEMENT INTEGRALE DES AUTOVEHICULES AVEC DES MOTEURS ELECTRIQUES

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Abstract: *Le véhicule électrique est une réalité de nos jours et représente une perspective prometteuse pour le futur. Des entreprises prestigieuses du domaine des automobiles (FORD, TOYOTA, GENERAL MOTORS, HONDA, MITSUBISHI, FIAT, RENAULT etc.) ont obtenu des résultats particuliers et continuent toujours leurs travaux de recherche. En Roumanie le domaine est d’actualité et il est très bien représenté. On a obtenu des résultats remarquables dans le domaine des moteurs électriques utilisés pour actionnement. Parmi les spécialistes ayant des préoccupations et des réalisations nationales, il y a aussi les auteurs de cet article.*

ABOUT IMAGE COMPRESSION ALGORITHM USED IN MOBILE CONTINUOUS MONITORING SYSTEMS

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Abstract: *Mobile continuous monitoring systems start to grow in every modern army. They are also known as UAV (Unmanned Air Vehicle) and probably in few years almost every army will be equipped with UAVs. The goal of this paper is to present an algorithm that compress images captured from the UAV and transmitted to the ground. This paper focuses on the image compression algorithm presenting simple techniques that can be combined for a high compression ratio, with low resources and a good quality.*

AN APPROACH OF DIGITAL CONTROLLERS DESIGN

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Abstract: *This paper presents and uses a modern development technology of data acquisition applications and of digital process control, technology which starts from application modeling and simulation in a virtual software environment and reaches automatic generation of application code for target equipment properly configured. The main objective of this work is the implementation of digital control PID algorithms starting from their SIMULINK model and ending with the functional variant for target equipment compatible with xPC Target specifications.*

ABSTRACTS MECHANICAL ENGINEERING

CONTROL OPTIMISATION AND LOAD PREDICTION FOR MARINE DIESEL ENGINES USING A MEAN VALUE SIMULATION MODEL

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Abstract: *This paper presents some results obtained during a preliminary study into cyclic loading of a diesel engine driving a ship sailing in irregular waves. The diesel engine was simulated using an existing mean value first principle model. Thermal loading prediction was made part of this model. Using the integrated model, two extreme control strategies are compared: constant pitch with a conventional governor and constant speed using a controller for the pitch.*

CONCEPT OF DIESEL TURBOCHARGED NAVAL ENGINE MODELING

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Abstract: *This paper shows the flexibility of the chosen modeling strategy it offers to predict the behavior and thermal loading with different control strategies under various conditions.*

EFFECTIVENESS OF THE NAVAL DIESEL ENGINE FUNCTION AT THE TRANSIENT STATES OF SPEEDING

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Abstract: *From the big number of transient states what characterize the function of a naval diesel engine, the state of speeding is the most studied at this moment. For the effectiveness of the function, the designer specialists, constructors but also those who repair, exploit and care the naval diesel engines, must collaborate permanently. This effectiveness is becoming possible ensuring a higher and longer dynamicity for engines, with a small specific consumption of fuel and a reduced grade of environmental pollution. The very high level of quality in the production of engines reached by the powerful enterprises in domain („MAN B&W”, „Sulzer”, „Gotawerken”, „Wartsilla”, „Detroit Diesel Motor” etc.), the performant equipments of command, watching and control of the function, combined with the profession of the crew, will contribute, certainly, to the effectiveness of the naval diesel engine function.*

SPECIAL VEHICLES MADE IN THE STUDENT AND PROFESSOR’S PROJECT TEAMS, AT MECHANICAL ENGINEERING FACULTY – “OVIDIUS” UNIVERSITY OF CONSTANTA

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Abstract: *The paper presents the three generation main achievements of the student and professors’ team that projected, built, tested and launched, in 19 May 2007, the TRIO City Car Concept- as a 2,5 meters long / three seats / Flexi Fuel prototype-. Some aspects of NEMO history (first floated car that sailed across Mamaia Lake in June 2005 and future MIXTRA (Mixed Transport On road and water) experimental projects are also part of the presentation. The work reveals some main projects realized during practical and training activity in Constanta “Ovidius” University Automotive Engineering Section.*

A STUDY OF THE DYNAMICS FOR ONE HYBRID VEHICLE, AUTOMOBILE-SHIP, WITH SUBMERSIBLE LIFTING WING

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Abstract: *In this paper it is presented original contributions at the analytical definition of the dynamics for one hybrid vehicle, automobile-ship, with submersible lifting wing, in the case of soil running and water floating, in stationary and transitory movement. The study permits the determination, in any functional regime, of the movement components (cinematic measures: velocity v , acceleration a , road length l , time t , and dynamic measures: fluidic forces of head and lifting resistance, necessary power). It is assessing a transition function: relative velocity, dimensionless, in function of the relative time. The showed relations allow the numerical resolve of some constructive solutions and their energetic optimization.*

CONTRIBUTIONS AT THE ANALYTIC DEFINITION OF THE DYNAMICS OBSERVATION FOR SHIPS WITH SUBMERSIBLE HYDRO-LIFTING WING THROUGH THE ANGLE OF INCIDENCE/ATTACK

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Abstract: *In this paper it is presented an analytic study at the dynamics for a ship with submersible hydro-lifting wing, observed through the wing angle of incidence / attack, $i = \text{var}$. There are showed analytical relations $C_x(C_x)$ and the law $i(v)$ optimal for the experimental model of wing with servo-controlled incidence, so that in the over-critic zone (when a steady geometry of the wing will induce the unbalance $F_z > mg$, F_z being the lifting force, quadratic increasable with the velocity v , and mg the weight of the ship) it can be ensure: the lifting force $F_z = mg = \text{const.}$; the moving hydrodynamic resistance $F_x = \text{const.}$, invariable with velocity; the movement acceleration $a = \text{const.}$; the consumed power, linear variable with velocity $N_x = vF_x$.*

EXPERIMENTAL RESEARCH REGARDING THE PHYSICO-CHEMICAL FEATURES OF THE METALLIC MATERIALS USED FOR THE MAKING OF THE BUSHINGS WITHIN THE MILITARY TECHNIQUE

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Abstract: *The materials used within the production of the bushings must have a series of physico-chemical features. These features influence the behaviour of the bushing during its functioning process. The present paper illustrates the results of the research made by the authors upon the physico-chemical features of two types of materials used in the making of the bushings within the military technique.*

EXPERIMENTAL RESEARCH REGARDING THE QUALITY OF THE PLATING OF THE ANTI-FRICTION MATERIAL WHEN DEALING WITH BUSHINGS USED IN THE MILITARY TECHNIQUE

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Abstract: *The plating of the anti-friction material used for the making of the bushings must have a series of very important properties for the bushing itself. The quality of the plating influences the quality of the bushing as a whole, but also its behaviour while working. The present paper highlights the results of the research made by the authors upon the quality of the plating of the anti-friction material used in the making of the bushings used in the military technique.*

CAD-CAE INTERFACING BY RELATIONAL TECHNIQUES

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Abstract: *This paper presents a way for interfacing CAD and CAE tools, meant to increase the precision and productivity for the geometric modelling process. It is presented the example of interfacing between the Multisurf and Cosmos/M applications, used for modelling and for the FEM analyze of the ships. A series of eager program code were used for achieving the data format transforming. The presented procedure has been used in some research projects for ships of various sizes and structure types.*

THE NUMERICAL ANALYSIS OF STEADY STATE AND TRANSITORY DYNAMIC RESPONSE FOR A BARGE TEST SHIP, BASED ON THE HYDROELASTICITY THEORY

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Abstract: *This paper is focused on the validation of the DYN eigen program code, for the ship dynamic response analysis, based on the hydro elasticity theory, using experimental data for a barge type test ship. First, it is presented the frequency domain analysis for the vertical displacement response amplitude operator of the barge model. Second, it is presented the time domain analysis of the transitory vertical displacement response of the barge model, under initial imposed forepeak motion conditions. The Bureau Veritas Register, in the frame of EU-FP6 MARSTRUCT project, supplies the test ship and experimental data. The obtained eigen numerical results are in good agreement with the experimental data.*

THE RISK MANAGEMENT AND THE FINANCIAL STABILITY

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Abstract: *The notable growth of goods and services flow, doubled by that of the cash flow, has emphasized the financial and economic integration at global level, this taking place simultaneously and in parallel with the unprecedented diversification of the financial – monetary structures. The realities brought about by the globalization dictate clear and final solutions that, in order to be efficient, have to start from the necessity of having actions thought about at least at regional level. In order to obtain real positive effects, the strategies have to surpass the national domain and the decisions have to be based upon common interests and upon an efficient collaboration in the domain of the macro-economic policies, oriented towards the promotion of a non-inflationary and durable growth, stable from the financial and economic point of view.*

PERFORMANCE MODELING OF A MICRO JET ENGINE WHO WORK IN MARINE ATMOSPHERE

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Abstract: *In this paper we propose to study the problem of obtain a micro jet engine maximal performance who work in marine environment and influence of atmosphere to micro jet engine performances. The environments are advantage and disadvantage in jet engine work and life duration of his components. The performances modeled are thrust force and specific fuel consumption.*

THE NEED OF CONTINOUS COP CALCULATION FOR LARGE REFRIGERATION PLANTS

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Abstract: *Food preservation has been the main refrigeration application for more than one century. Nowadays greater and greater use is being made of refrigeration for other perishables. Nevertheless, the frozen food sector is still expanding and chilled food may take an even larger place. The refrigeration technology is indispensable also on board the ship, not only for the reefers. Without it, healthy meals and comfortable living conditions would not be possible. This paper deals with continuous direct and indirect calculation of COP (coefficient of performance) for large refrigeration plants. This calculation is useful for the determination of loss in cooling capacity, mechanical faults and energy optimization of single compressors refrigeration plants and complex systems with more than one compressor.*

MODERN METHOD TO ESTIMATE THE PRESENT POSSIBILITIES TO DIMINISH THE WEAR PHENOMENON

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Abstract: *The wear represents the degradation of an object by continuous use and it represents the main deterioration factor for the parts and the subassemblies of the technical equipments. This paper represents an important accumulation of individual studies, information and experience, as it is an important step in the technical and didactic improvement, regarding the study of the wear phenomenon and choosing the most advanced and modern methods and procedures to recondition the surfaces of the parts intensely submitted to wear. This paper is organized in four chapters and it contains general aspects regarding the parts' friction and wear, the factors influencing the parts' wear, the improvement of the quality of the parts' surfaces by applying heat treating and by presenting the modern method to estimate the present possibilities to diminish the wear phenomenon.*

THEORETICAL AND PRACTICAL CONTRIBUTIONS FOR THE OPTIMIZATION OF NAVAL SAIL SYSTEM

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Abstract: *It is known that the geometrical shape of craft prow determine the resistance of movement. By using inverse methods and integral equations, the drag coefficients for the different convexes shape have been calculated. After that, in part II, for naval sail system, it is calculated optimal shape of the sails for maximal drag and maximal propulsion for naval sail system. In this paper, the cases for plate sail with rectangular wind on the plate, the plate sail in a wind parallel with profile chord, the curvilinear plate in unlimited flow for maximal propulsion have been presented. For sail optimization purposes, flaps sails are considered assimilated to a point-vortex and Jukovski theory is applied.*

BEHAVIOR OF HORIZONTAL AND VERTICAL FOLDED PLATE ELEMENTS IN SHIP STRUCTURE

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Abstract: *Usual, the folded plate elements of folded longitudinal bulkheads of tankers are vertical orientated. The construction with horizontal folded plates is not restricted by Rules of Ship Construction, but this variant are seldom used, although offers some technological and exploitation advantage. The behavior of vertical folded plate elements in contrast with horizontal folded plate elements in axial tension/compression states, needed for evaluating of ship limit bending moments, is presented in this paper.*

SOME PRACTICAL ASPECTS CONCERNING THE ACHIEVEMENT OF THE INDICATED DIAGRAM OF A S.I. ENGINE

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Abstract: *The experimental researches of a SI thermal engine it governed by the rules based on many standards. Obviously, for the best results, it is very important the technical endowment of the workroom including the engine test bench. Based on the large experience in the engine researches of the Automotive Department of the Mechanical Engineering Faculty Brasov, the paper presents the testing methodology, that means, from engine mounting on the test bench to the correct matching and adoption of a various transducers, from the conditioning amplifiers to the computer-compatible data acquisition, purposing the achievement of the indicated diagram.*

A SWOT ANALYSIS OF BIODIESEL FUEL TECHNOLOGY IN ROMANIA

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Abstract: *Protecting the environment is essential for the quality of life of current and future generations as well as for economic growth. Given that the Earth's natural resources and the man-made environment are under pressure from growing population, urbanisation, continuous expansion of the agriculture, transport and energy sectors, as well as climate variability and warming at local, regional and global scales, the challenge facing the Romania is to ensure continuous and sustainable growth while at the same time reducing negative environmental impacts. The aim of his paper is to analyze the economic challenge, economic costs and agricultural impact in Romania into increasing biofuel using conditions.*

CONSIDERATIONS ABOUT PROPELLER CHARACTERISTICS FOR CAVITATION, NOISE AND VIBRATIONS REDUCTION

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Abstract: *The ship speed of vessel has been increased in recent years. This works present a general rule been design rule when designing propeller to aim for highest possible level of propeller efficiency while keeping vibration and noise and hence cavitation at the lowest possible level. Less cavitation results in a large blade area ratio, whereas trying to obtain a high propeller efficiency requires the reverse*

CLEAN SOLUTIONS FOR SHIPPING INDUSTRY

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Abstract: *The Clean ship is a ship designed and operated in an integrated manner to eliminate harmful operational discharges and emissions. A ship that is constructed and can ultimately be recycled in an environmentally acceptable way, and one that is energy and resource efficient in its daily operation. A Clean ship operation maximizes the opportunities for safe and environmental navigation while at the same time providing all possible safeguards in the event of an accident. It requires a shipping sector that puts safety and environmental protection first, an industry with a "safety culture" at its heart. The aim of this work, Clean ship project, is to communicate the Clean ship - firstly to the Maritime Industry, but also to the general public. By proposing solutions - both workable actual solutions and future options, the project partners aim to stimulate stakeholders to plan a course towards a sustainable use of the seas and oceans.*

ABSTRACTS MILITARY TECHNIQUE

CONTRIBUTIONS ABOUT THE DESIGN OF WELDING SUPPORT STRUCTURE OF A NAVAL GUN

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Abstract: *Romanian Naval Forces are using cannons which have the possibilities to rotate in horizontal directions almost 360°. This main property concludes the necessity of utilization of a gun carriage in a new concept, different from old known cannons. The paper proposes a new way to design and, after that to optimize the structure using new design methods and MEF technique, also to do verification during the artillery fire.*

INVESTIGATION OF THE POSSIBILITIES TO EXTEND THE CONCEPT OF STABILITY TO MILITARY ASSETS

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² Prof. dr. ing. DHC, Universitatea “Transilvania”, Brașov

³ Prof., Universitatea “Transilvania”, Brașov

Abstract: *The stability of military vehicles is a new concept that was analysed in detail in my doctor's degree paper. In this work, we will try to apply this concept generally at the level of military assets. The concept, the definition and the stability factors are presented in the first part, whereas their interdependence will be analyzed in the second part. Because it is a new concept, we had difficulties in translating it. The word “stability” will be used in spite of the fact that sometimes the word “durability” can also be met. This term could be confused with the older exploitation characteristic “durabilitate” that has more the meaning of reliability.*

THEORIES CONCERNING THE DISCOURAGEMENT OF THE POTENTIAL ENEMY, SUPPORTED BY EFFICIENT STRIKING MEANS

M. VLADU¹

¹ Colonel, assistant professor PhD, The Application School for Combat Support Units “General Eremia Grigorescu”, Sibiu

Abstract: *The modern armies have at their disposal very efficient armament and weapons that ensure the qualification for achieving the immediate success after thoroughly planned and performed joint military operations. The specialists have also developed theories that are discouraging for any potential adversary who would try to oppose resistance. The military conflicts in the world from the last 20 years have clearly shown that the theories and the efficient weapon systems used*

have proven their stability and have greatly increased the discouraging character. Starting from this “cruel reality” we intend to present concisely the discouragement theories launched by the states with powerful armies and also the weapons systems meant to support the implementation of these theories. We consider that each state that intends to approach a military conflict must thoroughly analyze the contents of these theories and to determine if it is capable to antagonize the destructive effects of the weapon systems of the potential adversary. Ignoring these problems inevitably leads to failure, followed by major political, economical, military repercussions.

THE EQUATIONS GOVERNING THE RESPONSE OF A SUBMERGED SUBMARINE TO AN UNDERWATER GAS BUBBLE

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¹Locotenent comandor drd, *Instructor șef, Academia Navală “Mircea Cel Bătrân”*

²Căpitan drd, *Instructor șef, Academia Navală “Mircea Cel Bătrân”, Constanta*

Abstract: *In this paper it will be studied the effect of the underwater explosion on submerged submarines. A submarine will be simplified as free-free beams made from rigid perfectly plastic material. A detailed fluid structure interaction is analytically studied to obtain the equation governing the fluid force per unit length of the beam and the fluid - beam interaction equation. The time history of a bubble radius and explosion magnitude is graphically shown.*

ABSTRACTS MATHEMATICS

ON A TRANSPORTATION PROBLEM TYPE

I. ANTONESCU¹
A. BĂTĂTORESCU²

¹Lect. univ. dr., *Naval Academy “Mircea cel Batran”, Constanta*

²Conf. univ. dr., *Facultatea de Matematică și Informatică, Universitatea Bucuresti*

Abstract: *This paper presents an algorithm for solving a special problem which distributes different types of ware from dealers to some customers such that each customer receives ware of the same type and an efficiency function is maximized.*

DITA FOR E-LEARNING SYSTEMS

C. CHIRU¹
P. VASILIU²
M. GRIGORE³

¹Conf. univ. dr. *Universitatea Spiru Haret Constanta*

²Lect. univ. dr., *Naval Academy “Mircea cel Batran”, Constanta*

³Lect. univ. dr. *Universitatea Spiru Haret Constanta*

Abstract: *The Darwin Information Typing Architecture (DITA) is an XML-based architecture for authoring, producing, and delivering technical information. DITA includes topics like: Task, Concept, Reference. In this paper we present some solutions regarding the DITA use for elearning.*

ABOUT A CHARACTERIZATION OF ISOFIELDS AND THEIR ISODUALS

C. CIOBANU¹
I. COLȚESCU²

¹Conf. univ. dr., *Naval Academy “Mircea cel Batran”, Constanta,*

²Conf. univ. dr., *Naval Academy “Mircea cel Batran”, Constanta*

Abstract: *Because of certain physical motivations, Ruggero Maria Santilli introduced in 1980 at the International Conference on Differential Geometric Methods in Physics a new class of fields today known as isofields. In 1985 Santilli introduced a new antiautomorphic conjugation called isoduality which yields the conjugate class of isodual isofields. In this paper we present the most general possible formulation of isofields and their isoduals and after that, generalized structurable algebras.*

GREEDY AND LAZY EXPANSIONS

I. COLȚESCU¹
D. LASCU²

¹Conf.univ.dr., *Naval Academy “Mircea cel Batran*

²Asist.univ.drd., *Academia Navală “Mircea cel Bătrân”, Constanta*

Abstract: *There are many ways to represent real numbers. In this paper we present some of these expansions, namely expansion in integer base and in non-integer base. Thus, we define the greedy and the lazy expansion and present some of the ergodic properties of these expansions.*

RANDOM β - EXPANSIONS

D. LASCU¹

I. COLȚESCU²

¹ Asist.univ.dr., Naval Academy “Mircea cel Batran”, Constanta

² Conf.univ.dr., naval Academy “Mircea cel Batran”, Constanta

Abstract: *In this paper we study random expansions to non-integer base $\beta > 1$. We also discuss the uniqueness of expansions and present the basic properties of random β -expansions.*

PARALLEL ALGEBRAIC METHODS FOR THE CONTROLLABILITY PROBLEMS IN CONTROL THEORY

I. POPOVICIU¹

¹ Conf. univ. dr., Naval Academy “Mircea cel Batran”, Constanta

Abstract: *For the controllability and the eigenvalue assignment problems in control theory we give parallel algorithms that run in almost linear time on a parallel random access machine model. The algorithms make efficient use of the processors and are scalable which makes them of practical worth also in the case of limited parallelism.*

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I. POPOVICIU¹

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Abstract: *For the controllability and the eigenvalue assignment problems in control theory we give parallel algorithms that run in almost linear time on a parallel random access machine model. The algorithms make efficient use of the processors and are scalable which makes them of practical worth also in the case of limited parallelism.*

FUZZY INTEGER TRANSPORTATION PROBLEM

Ghe. DOGARU¹

¹ Lect. univ. dr., Academia Navală “Mircea cel Bătrân”, Constanța

Abstract: *In this paper is presented an algorithm which solves the fuzzy values transportation problem for request and offering and with the integrability condition imposed to the solution. The algorithm is exact and calculable effective even if the problem is formulated into a general manner, i.e. the fuzzy values for request and offering can be different one of the others and they are fuzzy numbers of a certain type.*

A GEOMETRIC CHARACTERIZATION OF KOROVKIN SETS

A. SPORIȘ¹

¹ Lect. univ. dr., Academia Navala “Mircea cel Batran”

Abstract: *The present paper concerns itself with a geometrical approach to some Korovkin-type results.*

ABSTRACTS MANAGEMENT

INTERACTION ANALYSIS IN SUCCESSFUL TEAMS

D. BELU¹

¹ Conf. univ. dr., Academia Forțelor Aeriene „Henri Coanda”, Brașov

Abstract: *The paper insists on the fact that groups composed entirely of clever people, or of people with similar personalities, display negative results and lack creativities and describe the way in which one team member interacts with another where performance serves to facilitate the progress of the team as a whole.*

REDUCING ROLE CONFLICT AND ROLE STRESS

D. BELU¹

¹ Conf. univ. dr., Academia Forțelor Aeriene „Henri Coanda”, Brașov

Abstract: *The paper insists on the fact that groups are formed as a consequence of the pattern of organization structure and arrangements for the division of work. Goals are identified by management, and certain rules, relationships and norms of behavior are established.*

THE RISK MANAGEMENT AND THE FINANCIAL STABILITY

G. DRAGOMIR¹

Ș. DRAGOMIR²

¹Director general adm., prof. univ. dr. ec., Universitatea “Danubius”, Galați

²Prof. univ. dr. ing., Universitatea “Dunărea de Jos”, Galați

Abstract: *The notable growth of goods and services flow, doubled by that of the cash flow, has emphasized the financial and economic integration at global level, this taking place simultaneously and in parallel with the unprecedented diversification of the financial – monetary structures. The realities brought about by the globalization dictate clear and final solutions that, in order to be efficient, have to start from the necessity of having actions thought about at least at regional level. In order to obtain real positive effects, the strategies have to surpass the national domain and the decisions have to be based upon common interests and upon an efficient collaboration in the domain of the macro-economic policies, oriented towards the promotion of a non-inflationary and durable growth, stable from the financial and economic point of view.*

ABSTRACTS SOCIAL SCIENCES

FLEXIBILITY - PART OF FITNESS

L. ATANASIU¹

C. MIHĂILESCU²

¹Conf. Univ. Dr., Academia Navala “Mircea cel Batran”

²Lector Univ. Dr., Academia Navala “Mircea cel Batran”

Abstract: *Flexibility – physical quality necessary in training of military students. The stretching exercises described in this paper are efficient for fighting stress, if they are performed with patience and slowly until acquiring a blood pressure that confers the wanted effect.*

ENERGY METABOLISM AND SWIMMING PERFORMANCE

V. ENE-VOICULESCU¹

V. KERTON²

¹Conf. univ. dr., Academia Navală „Mircea cel Bătrân”

²Senior lecturer, University of Gloucestershire, United Kingdom

Abstract: *Swimming from one end of a pool to the other is made possible by the contractions of muscles. Muscular contraction, in turn, is achieved through the release of energy stored in chemical compounds within the body. Energy provides the power for swimming; without energy, muscles could not contract. This chapter describes the physiological mechanisms that provide energy for muscular contraction. The totality of the processes of supplying energy is called metabolism.*

THE IMPACT OF OUTDOOR PLAY ACTIVITIES IN PRE-PRIMARY SCHOOL CHILDREN

C. ENE-VOICULESCU¹

N. S. HAUG²

¹Prof.univ.dr., Facultatea de Educație Fizică și Sport, Universitatea „Ovidius” Constanța

²Ph. D., Senior Lecturer Telemark University College, Norway

Abstract: *The present study explored how a natural environment in Norway provides a stimulating plays cape for kindergarten children, and how different features in the landscape a afforded play activities. The impact of such outdoor activities on children’s motor fitness was tested, and a better improvement was found in the experimental group compared to the reference group. The study indicated a probable relation between all-round play in the natural environment and the effect on motor development in the children.*

BETWEEN THE UNIVERSALISM OF THE HUMAN RIGHTS AND THE RIGHT TO DIFFERENTIATION

E. MOROIANU¹

¹Prof. univ. dr., Institute of Juridical Research “Andrei Radulescu” of the Romanian Academy

Abstract: *Juridical sociology researches noticed the wish to regain the lost identity that manifest itself also within the advanced industrialized societies of the civilized world, where, more and more difficult, the individuals belonging to the majority national culture try to identify themselves with their own culture, that tends to atomize.*

PLATO’S CONCEPT OF BEAUTY

V. NAZARE¹

¹Ph.D. Senior Lecturer Vasile Nazare, "Mircea cel Bătrân" Naval Academy, Constanța

Abstract: *The aesthetic issues raised by the Athenian philosopher – the links between the concept of beauty and beauty as reality, between objective and subjective in the content of beauty and its nature, the beauty-good-justice relation, ethic and*

aesthetic or Eros and beautiful – remain present questions, engraving their echo in mankind’s philosophical thinking throughout its history and also in the autochthonous aesthetic and creation.

ROMANIA’S ROLE IN THE QUEST FOR POWER FROM THE BLACK SEA REGION

V. NAZARE¹

¹ Ph.D. Senior Lecturer Vasile Nazare, "Mircea cel Bătrân" Naval Academy, Constanța

Abstract: *The outcome of the power quest from the Black Sea region – in the new geopolitical and geostrategical context: the NATO and EU expansion towards east, the raised interest for Caspian energetic resources, the appearance of new and asymmetrical risks and threats – will influence the peaceful and stable climate both European and global. Starting from the indivisible security premise, Romania as NATO and EU member, must become a “dynamic vector” of stability and wealth in the Pontic area.*

METHODOLOGICAL ASPECTS OF LEARNING THROUGH COOPERATION WITHIN SEMINAR ACTIVITIES

M. VIȚALARIU¹

¹ Military Professor „Henri Coandă”, Air Force Academy, Brașov

Abstract: *Pedagogical innovations in the second half of the 20th century have greatly lead to the decrease of the proportion that frontal education used to hold in the time economy of educational activities. The curriculum innovations, like the one known as „mastery learning”, as well as the ones that emphasized the individualization and differentiation of the curriculum, have made room for small group education and learning through individual activities. Thus the organization and deployment of university educational activity, together with frontal classes, most of the times held as lectures, seminar activities grow ever important thanks to their contribution to achieving educational goals.*

BALANCE OF POWER AND HEGEMONY. THE TRANSDNIESTER CONFLICT

M. ZIDARU¹

¹ Military Professor „Henri Coandă”, Air Force Academy, Brașov

Abstract: *Trans-Dniester Moldavian Republic is situated between the Republic of Moldova and the Republic of Ukraine. Territorially the state encompasses areas on the left bank of the Dniester River, the town of Bendery and some villages on the right bank. The capital of Trans-Dniester Moldavian Republic is Tiraspol (population 194,000 as of 1 September 1999). The dispute between Transdniester and the rest of Moldova remains unresolved. Decade-long talks supervised by the OSCE, Russia, and Ukraine have failed repeatedly, attracting criticism that Russia is unofficially supporting the separatists, although Moscow has not formally recognized Transdniester’s existence.*

AN OVERVIEW OF THE NEW ARHITECTURE OF INTERNATIONAL MONETARY SYSTEM

C. POPA¹

¹ Lecturer., Naval Academy „Mircea cel Bătrân” Constantza

Abstract: *The new architecture of the international monetary-financial system is determined by the evolution of the economics, socials, culture and contemporary policies. The reorganization of the monetary-financial system’s institutional and functional formulas is not possible against trimming the intervention according to all the attempts regarding defining the new equation of the global equilibrium. The International Monetary Fund and the World Bank represent only a parcel of the institutional system with universal vocation. Its role is to watch over the monetary-financial dimension and it has direct responsibilities regarding formulating certain policies and coherent strategies meant to assure the general monetary and the global financial equilibrium.*