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PARTICULARITIES IN CONSTITUTING UNDERWRITER DISTRAINT

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ABSTRACT

Underwriter measures, also called "insurance measures" or "the insurance of rights that are capitalized through action", are defined as the possibilities given by the law so that, pendente lite, the court will impose, within appropriate limits, measures concerning the unavailability and preservation of goods, in relation to actions or deeds that may endanger the possibility of an effective exertion, at the moment of the compulsory execution of the decision, of the right of the creditor [1].

The underwriter measures consecrated by our civil law Code are: the underwriter distraint (art. 591- 596 civil law C.), the inhibition (art. 597 civil law C.), and the legal attachment (art. 598- 601 civil law C.)

Keywords: *Underwriter measures, Insurance measures, Underwriter distraint, Debt*

CLIMATIC CONDITIONS AND THEIR INFLUENCE ON MARITIME SHORES

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ABSTRACT

The shore or the sea coast, as separation lines between land and sea, is subject to the permanent action of internal factors (tectonic movements and volcanism) and of external factors (processes of erosion, wind, waves, currents, tides, living organisms and humans), issues that complicate their development.

A good quality, stability and consolidation of shores or coasts have a special importance in the socio-economic life of each country limitary to the sea or navigable rivers. This is in view of the benefits arising from the safe operation of maritime and river ports, which, across time, transformed neighboring villages in great national or international port cities.

Keywords: *climatic conditions, maritime shores, geo-climatic factors*

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AQUATIC ENVIRONMENT POLLUTION

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ABSTRACT

From immemorial times people have been concerned with environment protection, certainly on a scale corresponding to the impact of human activities on it, taking into account, from the very beginning, the interest on the "health" of drinking water sources, where their animals drank and where their respective communities could drink clean water and use it in daily cooking, until nowadays, when the marine environment has turned into an international policy.

Taking into account that the natural environment represents the set of natural conditions and elements of the Earth: air, water, soil and subsoil, all atmospheric layers, all inorganic materials and all the living beings which can not live without water, their protection knows today a regulation by means of legal norms- which are carefully monitored and punished from a legal point of view, in each state.

Keywords: *Dobrogea, Danube, Black Sea, aquatic environment,*

SEA WATER TEMPERATURE REGIME IN THE ROMANIAN BLACK SEA COAST AREA

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ABSTRACT

The thermal analysis of marine waters in the Black Sea coastal area refers to the multi-annual average temperature values, maximum and minimum, both vertically and by comparing the area of shore and offshore waters. Aspects of daily and seasonal variations of seawater temperature are detected by analyzing a series of parameters such as: vertical and horizontal thermal gradients, temperature variation, thermal jump layer, thermal stratification and charts available for specific periods of day or year.

Keywords: *temperature variation, coastal waters, isotherm.*

THE ROLE OF HUMAN FATIGUE FACTOR TOWARDS MARITIME CASUALTIES

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ABSTRACT

The international studies on maritime accidents has shown that fatigue is continuing to be either the main cause or a contributory factor in a considerable number of casualties at sea resulting in the loss of life and damage to the environment and property. In fact, fatigue's detrimental role toward performance at work is leading to errors being made and consequently resulting in fatalities. In light of these considerations, fatigue issue is of great importance to seafarers, the shipping industry and to the international maritime organizations. Therefore, the purpose of this paper is to analyze the impact of fatigue on seafarers which leads to casualties of human life and property at sea. In this regard, the authors support the idea that indeed fatigue plays a detrimental role on seafarers which in turn may impact the normal operation of ships while at sea resulting thus in accidents.

Keywords: *Human factor, Performance onboard ship, Fatigue at sea, Maritime casualties, Maritime disasters.*

HAMBURG RULES V HAGUE VISBY RULES AN ENGLISH PERSPECTIVE

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ABSTRACT

It has often been argued for the effect of defences provided to carriers under Art IV (2) of Hague Visby Rules to almost nullify the protection guaranteed to shippers in other provisions of this convention. Therefore an all embracing universal shipper friendly convention, merely the Hamburg Rules, need be incorporated in all countries in order to address this issue and fully satisfy the intentions of the parties for the establishment of international rules in international trade.

THE IMPACT ON LANDSCAPE GENERATED BY THE CONSTRUCTION OF THE BRIDGE OVER DANUBE FROM CALAFAT -VIDIN

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ABSTRACT

The future road and railway joint bridge it will be constructed over Danube, in Vidin (Bulgaria)-Calafat (Romania) area, on 796 km, at the north side of these two cities. This transport infrastructure is representing in the same time an integrated component of international motorways system and a part of the south section of Pan-european Corridor (no. IV). The bridge construction has the potential to generate an environmental unfavourable impact, mainly as a result of its structures and the infrastructure's exploitation. Landscape's impact may be percepted in two ways: first, the impact on landscape aesthetics and physical structures and the second, the impact on landscape attractivity regarded from the point of view of those people who has into their observation area the constructed structures or its component elements.

Key words: *Calafat-Vidin bridge construction, landscape impact assessment.*

THE USE OF ECDIS IN MODERN NAVIGATION

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ABSTRACT

A good navigator gathers information from the electronic aids like Chart Display & Information System (ECDIS), evaluates this information, determines a fix, and compares that fix with his pre-determined "dead reckoning" position. By using the ECDIS a navigator constantly evaluates the ship's position, anticipates dangerous situations well before they arise, and always keeps "ahead of the vessel". This paper intends to emphasize the manner in which the modern navigator must also understand the basic concepts of ECDIS, evaluate its output's accuracy, and arrive at the best possible navigational decisions. But navigation must be done by keeping in mind that successful navigation cannot be acquired only by using electronic aids like ECDIS. Old fashion navigation is still needed. Therefore, our final objective is to show the benefits of using ECDIS but also to point out the importance of traditional navigation.

Keywords: *electronic aid, navigation, modern, ECDIS.*

PIRACY IN THE GULF OF ADEN – A PROBLEM OF OUR DAYS

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ABSTRACT

The present paper tries to elaborate on the causes of maritime piracy in the region of Somalia. The authors support the idea that there is no real incentive for the Somali government to contain piracy in the Gulf of Aden, apart from pressures of the international community and the need to improve one's image therein.

However, the efforts to counter piracy attacks must be continued and further enhanced by multinational cooperation due to the importance this region has for the international maritime trade.

In recent years, piracy and terrorism on high seas are posing serious threats to international security and economic development. With increasing interdependence, the use of sea route for transportation has become vital. Three main issues arise in relation to this threat: piracy with focus on Somalia and the Gulf of Aden; terrorism impacting trade through Malacca Straits; and policy response of the countries whose trade is adversely affected by sea piracy and terrorism.

Keywords: *piracy, Somalia, sea route, Gulf of Aden.*

THE CORROSION BEHAVIOUR OF THE CHROMIUM COATINGS IN SEA WATER

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Lecturer Dr. Ing. Adrian Sabau, Constanta Maritime University

ABSTRACT

The work intituled "The corrosion behaviour of the chromium coatings in sea water" presents the research done by the authors in order to cover with superficial metallic layers, some OL 37 carbon steel mechanical parts, by the use of some electrodes made of a corrosion resistant material (Cr). The corrosion resistance of the experimental layers was obtained using gravimetrical method and the polarization curves method. The superficial layers subjected to corrosion were analyzed by the use of an atomic force microscope. The investigations proved an improvement of the superficial layers quality in regard to the thermodynamics corrosion probability.

Keywords: *Superficial layers, corrosion, electrical discharge, cromim.*

NOISE MARINE DIESEL ENGINES AND THE ENVIRONMENT - PART I

Nicolae Buzbuchi, Liviu Constantin Stan

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ABSTRACT

Nowadays, more and more consideration is being given to environmental issues. Formerly, noise was considered a necessary, but harmless, evil. Today, excessive noise is considered a form of pollution which, in the long run, may cause permanently reduced hearing. As a consequence, authorities now demand that noise levels are kept below certain specified limits. Today, there are numerous national and international codes which both recommend, and demand, maximum permissible noise levels in the various parts of a ship. The greater demand for noise limitation in the maritime area has, of course, aroused wide interest. Consequently, greater demands are now made on the engine designer to provide more detailed and precise information regarding the various types of noise emission from the engine. After a brief definition of what noise actually is, this paper will attempt to clarify “noise” as applied to MAN B&W’s two-stroke engines, and will then go on to discuss the primary noise sources and types of engine-related noise emissions, noise level limitation, and the current situation in relation to noise

Keywords: *sound, noise, marine engines, noise level limitation*

NOISE MARINE DIESEL ENGINES AND THE ENVIRONMENT - PART II

Nicolae Buzbuchi, Liviu Constantin Stan

Constanta Maritime University

ABSTRACT

Nowadays, more and more consideration is being given to environmental issues. Formerly, noise was considered a necessary, but harmless, evil. Today, excessive noise is considered a form of pollution which, in the long run, may cause permanently reduced hearing. As a consequence, authorities now demand that noise levels are kept below certain specified limits. Today, there are numerous national and international codes which both recommend, and demand, maximum permissible noise levels in the various parts of a ship. The greater demand for noise limitation in the maritime area has, of course, aroused wide interest. Consequently, greater demands are now made on the engine designer to provide more detailed and precise information regarding the various types of noise emission from the engine. After a brief definition of what noise actually is, this paper will attempt to clarify “noise” as applied to MAN B&W’s two-stroke engines, and will then go on to discuss the primary noise sources and types of engine-related noise emissions, noise level limitation, and the current situation in relation to noise

Keywords: *sound, noise, marine engines, noise level limitation*

EXPERIMENTAL STUDY ON THE INFLUENCE OF CUTTING PARAMETERS ON SURFACE ROUGHNESS TO EXTERNAL CYLINDRICAL TURNING

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University of Pitești

ABSTRACT

In this paper we determined the influence of the cutting parameters (*v* and *s*) on the mean width of the profile elements RSm and we established the correlation between the RSm and Ra roughness parameters for exterior cylindrical lathing of the semi-product made of steel X 17 CrNi 16-2.

The experiments were conducted on the basis of factorial research programs and processing was done in real processing conditions by turning the cylindrical surface, using such tools used in steel processing and part geometry recommended for cutting these materials.

The regression analysis of the experimental results indicate that there is a positive linear correlation between the RSm and Ra roughness parameters, close to a functional dependence.

Keywords: *Roughness parameters, correlation, turning, cylindrical surface.*

THE INFLUENCE OF SOME PROCESS PARAMETRERS ON THE FORMING FORCES IN THE COLD TEETHING BY INTERMITTENT BLOW PROCESS

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Universitatea din Piteşti

Abstract: The paper presents aspects of experimental research for machining of cold teething by intermittent blow. There are presented the expressions of the consecutive forming forces (pressures) by using the mathematical statistics and the conclusions which highlight the fact that the forces of deformation at cold teething by intermittent blow depend on the nature of the material to be machined and the teething process parameters the fed travel of the module (m*),* axial advance (s_a) and teething speed(v_d).

Key words: *cold, gear generation, forces, intermittent, shock.*

CONSIDERATIONS REGARDING THE USE OF DISTORSIONAL SIMULATION FOR STUDYING LONG BREAKE-WATERS

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Constanta Maritime University

ABSTRACT

In the paper we propose to use the FLUENT to calculate the water current action on the break-waters. This calculation is made on models at one and two scales. The results are converting into reality using the similarity criterions. We also calculated the action of the current on the break-waters in the nature.

We are interesting about the correspondence between the values in the nature and the values obtained using the similarity at one scale and two scales.

Keywords: *break-water, distorsional simulation, current action.*

A PRACTICAL APPROACH TO VIBRATION DETECTION AND MEASUREMENT

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ABSTRACT

This article addresses the physics of vibration; dynamics of a spring mass system; damping; displacement, velocity, and acceleration; and the operating principles of the sensors that detect and measure these properties.
Vibration is oscillatory motion resulting from the application of oscillatory or varying forces to a structure. Oscillatory motion reverses direction. As we shall see, the oscillation may be continuous during some time period of interest or it may be intermittent. It may be periodic or non-periodic, it may or may not exhibit a regular period of repetition. The nature of the oscillation depends on the nature of the force driving it and on the structure being driven.

Keywords: *Vibration, detection, measurement, sensors, oscillation, force, system.*

NUMERICAL SIMULATION OF THE COMBUSTION IN GAS TURBINES COMBUSTORS

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ABSTRACT

A Numeric simulation of the combustion in Gas Turbines has been performed and proposed for the complete combustor and exhaust area numerical treatment, the model being obtained using multiple species concept, the chemistry approach being with Eddy-Dissipation chemistry model, the turbulence model being k-ε. The rich palette of results shown below are thoroughly investigating the combustion parameters and mass fractions of the species, all this by using the software Fluent 6.1

Keywords*: Gas Tubine, Numeric Simulation, Reacting Flow, Combustion*

TESTING AND NUMERICAL SIMULATION OF A FUEL INJECTOR IN A SUPERSONIC AIR STREAM

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Abstract

The new idea of liquid fuel (kerosene) aeroramp injector/plasma igniter was tested in cold flow using a supersonic wind tunnel at Mach 2.4. The liquid fuel (kerosene) injector is flush wall mounted and consists of a 2 hole aero-ramp array of impinging jets that are oriented in a manner to improve mixing and atomization of the liquid jets. The two jets are angled downstream at 40 degrees and have a toe-in angle of 60 degrees. The plasma torch used nitrogen and air as feedstocks and was placed downstream of the injector as an ignition aid. First, schlieren and shadowgraph photographs were taken of the injector flow to study the behavior of the jets, shape of the plume, and penetration of the liquid jet. The liquid fuel aeroramp was found to have better penetration than a single, round jet at 40 degrees. Next, the Sauter mean droplet diameter distribution was measured downstream of the injector. The droplet diameter was found to vary from 21 to 37 microns and the atomization of the injector does not appear to improve beyond 90 effective jet diameters from the liquid fuel aeroramp. At the end, a model of the assembly was designed using Fluent 6.1 and more analytical results were developed.

Keywords*: Simulation, Fuel-Injector, Plasma-Igniter, Aeroramp.*

THE EXERGY ANALYSIS FOR MARINE DIESEL ENGINES USING BIODIESEL AS FUEL

Feiza Memet, Liviu Stan

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ABSTRACT

Ships are important air pollution sources since on board high powered engines usually run with heavy fuels. There are two types of engines on board the ships: main engines and auxiliary engines. Usually, the main engines are a slow speed or medium speed diesel engine. The awareness of energetic and environmental problems pushed investigations towards the search of alternative fuels.

This paper analysis chemical and physical properties of biodiesel. An exergy analysis carried out on diesel engines using this kind of alternative fuel, for a power rating from 60–480 kW, enables to evaluate quantitatively the causes of thermodinamical imperfections.

Keywords: *biodiesel, engine, exergy analysis.*

THE IMPACT OF HCFC PHASE-OUT ON MARINE REFRIGERATION AND AIR CONDITIONING

Feiza Memet, Ph.D.

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ABSTRACT

Concerns related to the environmental impact of synthesized refrigerants have seriously affected the marine refrigeration industry. Recently, the focus is on global warming aspect. This paper examines the alternatives at the hand of ship owners connected to the HCFC 22 replacement.

It is developed a heat transfer analysis for R407C, a refrigerant suitable for water chillers on board of fishing vessels. Results show that heat exchange performances are lower than that of HCFC 22.

Keywords: *marine refrigeration, environment, heat exchange analysis.*

FOUNDATIONS REALIZED IN PUNCHED HOLES WITH LOW IMPACT UPON THE ENVIRONMENT

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As. dr. ing. CIOPEC Alexandra
Sl. dr. ing. VOICU Cristina Otilia
As. ing. COSTESCU Ciprian

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ABSTRACT

The paper deals with a new solution for realizing foundations, having a lower impact upon the environment than classical foundation solutions. The proposed solution consists of realizing foundation holes punched with the help of a spherical tamper. A semi-spherical foundation will be introduced in the obtained hole.

The presented foundation is easy to realize and efficient. It aims at avoiding a more expensive and hard to realize indirect founding system needing special, high capacity equipment. That would block the respective location for a long time altering the environment.

This solution for the realization of foundation holes pays a great part in reducing the volume of digging and of materials used in the foundations, the quantities of materials needing transportation (soil, concrete, steel-concrete, wood for formworks, etc.) as well as the shortening of the construction period. All these factors have favorable impact upon the environment, the investment costs being finally much smaller than in the case of other known solutions.

DESIGN AND CONSTRUCTION OF A RTT PNEUMATIC MANIPULATOR FOR DIDACTIC USE

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Teaching Assistant. Eng. Pancu Rareş

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ABSTRACT

The paper will present the process of building a pneumatic RTT manipulator for use in educational activities at the University of Oradea, Faculty of Management and Technological Engineering. The manipulator is useful for a series of activities related to teaching PLC programming, sensors and pneumatics. The manipulator is controlled by a PLC, which allows for a certain degree of flexibility of the manipulator's movement.

Keywords: *manipulator, pneumatic, PLC, educational, programming.*

PLASTICITY CRITERIA - RESIDUAL STRESSES AND DEFORMATIONS AT RING – SHAPED DISKS IN THERMAL FIELD II

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Abstract: - The present paper presents the theoretical method for determination of the deformations and the loss of stability of the disk stressed by an axial – symmetric thermal field, variable according to disk radius and thickness, superposed with a field of membrane tensions given by the rotational motion. The experimental results confirm the theoretical hypothesis. This paper also presents the tension and deformation state of the disks being in a non – stationary field of temperature. The study is done until the plastic deformations occur.

Key-Words: - disk, thermal field, stress, membrane tension, stability, non – stationary field

PLASTICITY CRITERIA - RESIDUAL STRESSES AND DEFORMATIONS AT RING – SHAPED DISKS IN THERMAL FIELD II

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Abstract: - The present paper presents the theoretical method for determination of the deformations and the loss of stability of the disk stressed by an axial – symmetric thermal field, variable according to disk radius and thickness, superposed with a field of membrane tensions given by the rotational motion. The experimental results confirm the theoretical hypothesis. This paper also presents the tension and deformation state of the disks being in a non – stationary field of temperature. The study is done until the plastic deformations occur.

Key-Words: - disk, thermal field, stress, membrane tension, stability, non – stationary field

A FUZZY LOGIC APPROACH ON MULTIPLE CRITERIA EVALUATION OF THE VOTING PROCESS THROUGHOUT AN ELECTORAL CYCLE

Prof. Dr Lucian Băluț

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ABSTRACT

This paper aims to present a study of how techniques of analysis used in designing the fuzzy controllers can be applied to Multi-Criteria distribution problems. As a case study, the repartition of the mandates for a county conference of a Romanian political party was analyzed. The distribution of mandates takes into account three criteria, namely: the number of votes, the percentage obtained and the positioning of each local organization in an election cycle. In fact, according to these three criteria, each organization is evaluated. The mandates are finally distributed in relation to the evaluation results. Evaluation is made using three methods. The first one analyzes the situation in which fuzzy rules contain three criteria. The second examines the situation in which fuzzy rules take into account only two criteria. The third one consider the situation when multi-criteria evaluation is done without resorting to fuzzy logic. Finally, one presents an analysis of the limitations imposed by each method..

Keywords: *Multi-Criteria Decision Analysis; Multi-Criteria Evaluation.*

NEW SOFTWARE TECHNOLOGIES FOR E-LEARNING

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ABSTRACT

In this paper we present a range of arguments in favour of integrating social software tools within e-learning system and to emphasize the advantages of socialization forms on student's education. Social software includes a wide range of different technologies, such as: social networking sites, weblogs, wikis, RSS feeds and social bookmarking. It's based on Web 2.0, a term associated with web applications that allows interactive information sharing, interoperability, user-centred design. The rigorous academic style of learning systems is necessary to be completed with social software tools to have a better impact on the student. Even wikis, social sites and blogs have a lot of fans (students and teachers) in higher education, it seems they have not been used to their full potential for e-learning.

As educators, we would like to be less boring, much more flexible and open and to have a better communication with our students. For this purpose, we tried to include the social software technologies in our courses, to achieve a deeper implication of the students in learning activities, to share knowledge, ideas and thoughts.

In respect of truth, it would be very misleading to define the social software as the best practice used in higher education, but we insist on idea to include its tools in learning systems.

Keywords: *Social software, E-learning, Web 2.0*

OPTIMIZATION OF ENERGY SYSTEMS MODELING WITH PETRI NETS

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ABSTRACT

Traditional tools used for modeling and simulation of power systems have certain limits in representing the problem and addressing the dynamics of events. This paper proposes using Petri network to optimize time to conduct an aerial electrical lines. In this sense, an extension of classical Petri network, transport network Petri T - timer shaped electric line construction problem. Critical path method is applied to this network has the advantage of its properties - in our case transition invariants. The algorithm used to determine road network and the network generates and compiles the program during the transition sequences provides a simple and flexible technique for real-time optimization of the project.

Keywords: *modeling, simulation, optimization, Petri nets*

SIGNAL VOLTAGE ELECTRICITY NETWORKS

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ABSTRACT

Harmonics are sinusoidal voltages or currents whose frequency is a multiple of the fundamental frequency of the source. Unlike them, voltage or current interharmonics have a sinusoidal variation with a frequency that is not a multiple of the frequency source.

Keywords: *Current curves, interharmonic frequency, fluctuations, flicker.*

ALTERNATIVE ENERGY RESOURCES: FOUNDATION SOLUTION FOR WIND TURBINES

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ABSTRACT

The use of the wind energy represents a modern and efficient solution for alternative energy consumption. The production of electrical energy using the wind power can be performed only by using modern equipments based on updated technologies. The electrical power generator and the steel upper structure of a wind turbine are equipments where were implemented the latest state of the art technology. The foundation solutions for this type of structure consist mainly into a huge block of reinforced concrete, this solution ensuring a great weight at the level of the base of the tower necessary to ensure the equilibrium of the upper structure. The paper will analyze the effect of a reduced number of piles below the foundation base. Those piles must ensure a reduction of the pressure transmitted to the soil by the foundation base and simultaneously to ensure a better equilibrium of the foundation and of the superstructure. The aim of the piles use is also to ensure a reduction of the dimensions of the foundation, having as consequence important savings in steel and concrete quantities.

Keywords: *wind energy, wind turbine, foundation, energy consumption.*

SOME ASPECTS REGARDING THE ACTIVATOR LAYER DESTRUCTION AT THE HID LAMPS ELECTRODES-PLASMA INTERACTION

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ABSTRACT

In this paper some aspects regarding the activator layer destruction are presented. Function of various external conditions, like current intensity, electrodes shapes, and surface electrode un-homogeneities, the electrode functioning mode of high intensity discharge lamps (HID) can be diffuse or hot-spot. The two modes are extremely different from the emissive layer evaporation and sputtering point of view. In the diffuse mode, the surface temperature distribution is relatively constant and low. The vaporization rate of the barium layer is small. Contrary, in the hot-spot case, the local spot core temperature can be higher than of the tungsten melting point temperature (3663 K) and the activator layer is rapidly destroyed. The work function increase and the discharge spot are moving to another zone more convenient from the electron emission point of view. This permanent spot movement determine a strong vaporization of the emissive layer and the lamp life-time reduction.

Keywords: *diffuse mode, hot-spot mode, emissive mixture.*

MODELLING THE STACK TYPE STRUCTURES BY USING THE PETRI NETS

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ABSTRACT

In the present paper is presented a model generated with the Petri Nets for a stack type structure. Each level of the stack (i.e. the bottom, an intermediate level and the top of the stack) is modelled with a Petri Net, the stack's model being obtained by combining all of them. The number of levels is unlimited.

Keywords: *Discret Event System, Modelling, Petri Nets, data structures.*

Anti – Hunt Control System

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ABSTRACT

The anti-hunt control system performs a better behavior than a classical On-Off one. The rudder moves softly and also the rudder machine. The derivative reactor ensures a component compensating the hyper transition one so the entire system will behave smoothly protecting the steering gear life.

Keywords: *anti-hunt control system, stroke, overshoot*.

CROSSTALK INFLUENCE IN THE EFFICIENT USE OF SPECTRUM FOR DSL NETWORKS

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ABSTRACT

This paper deals with practical issues associated to the adoption of dynamic spectrum management (DSM) in order to mitigate the crosstalk influence in digital circuits subscriber lines (DSL) access networks. Through dynamic adaptation and utilization of frequency spectrum, such as power control, bit loading or vectored transmission, Dynamic Spectrum Management (DSM) allows maximum flexibility in allocating ratindg among flows, achieves much higher total data rates, and extends the reach of broadband acccess.

To extract information associated to the crosstalk, information used by the DSM (Dynamic Spectrum Management) system, was utilizate a procedure named „crosstalk estimation".

The DSM level 2 performance is evaluated based on the achievable data rates obtained through experiments.

Keywords*: crosstalk, Dynamic Spectrum Management, Power Spectral Density, DSL*

A DIFFERENT APPROACH OF THE RIJNDAEL-AES ALGORITHM

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ABSTRACT

This paper presents a different approach of the Rijndael-AES symmetric algorithm, based on the addition of Mix Columns transformation, which originally belongs to the AES standard algorithm, before/after/before&after the Rijndael-AES encryption/decryption block and to the secret encryption/decryption key, resulting a new symmetric algorithm, in 3 different versions (M-AES, AES-M, M-AES-M), which the author of this paper generically called the AES PLUS algorithm. This paper also presents some aspects regarding the hardware (FPGA) implementation of the standard and proposed algorithms. The NIST statistical tests both applied to the AES-128 algorithm and to the new one proved that the M-AES-M version has a better statistical behavior than the original AES-128 standard algorithm.

Keywords: *Rijndael-AES symmetric algorithm, MixColumns transformation, hardware (FPGA) implementation, statistical tests.*

Again on semisimple infra-near-rings

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ABSTRACT

In some papers [6-9], M. Ştefănescu introduced and investigated the left infra-near-rings. In this paper we find out some properties of semisimple left infra-near-rings and we give characterizations for semisimplicity by using a kind of radical for a left infra-near-ring.

Keywords: *infra-near-rings, ideals, subgroups.*

Again on semisimple infra-near-rings

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DISCRETE GROWTH MODELS FOR INTERACTING POPULATIONS

Doctorand, Dragoescu(Cazacu) N. Nina

Ovidius University of Constanta

ABSTRACT

The paper presents a study of the optimal solution, for the so called “predator-prey” type models, which have a non-zero stable state such that if the perturbation from it is sufficiently large, the population densities undergo large variations, before returning to the steady state.

Keywords: *threshold, population, steady, optimal, state.*

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THE CAMPAIGN OF MARCUS ATILIUS REGULUS IN AFRICA. MILITARY OPERATIONS BY SEA AND BY LAND (256 – 255 B.C.)

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ABSTRACT

In 256 B.C., the Roman Senate decided to move the center of the operations against Carthage from Sicily to Africa. The Carthaginians encountered the Romans in the waters of Cape Ecnomus, but the fates smiled on the Roman's behalf, opening the way to Africa. In the winter of the years 256-255 B.C., only one consul, M. Atilius Regulus, remained in Africa. This actually triggered some negotiations between the two powers, but they were never completed. When diplomacy failed, the Carthaginians rebuilt their army recruiting African and Greek mercenaries. This new army was entrusted to a Spartan general, Xanthippus. In the early spring of 255 B.C., Atilius Regulus did not wait for his reinforcements to arrive and accepted the confrontation. The battle ended with the victory of the Carthaginians. In the same year, Rome sent ships to the North African coast in order to save the remaining expeditionary troops of Regulus. On the way back from Africa, the Roman fleet was caught in a strong storm near Camarina, which caused the loss of important troops. Instead of being a success, the African campaign turned into a great disaster in 255 B.C.

Keywords: *Rome, Carthage, M. Atilius Regulus, Xanthippus, Cape Ecnomus, Camarina, Polybius*

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SPECIFIC MODALITIES TO APPLY THE MATHEMATICAL-STATISTICAL PROCESSINGS INSIDE THE OPERATIONAL RESEARCH, ACTING IN THE PROFESSIONAL AND SPORTIVE TRAINING OF THE NAVAL STUDENTS

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ABSTRACT

The present paper shows in short, the results of a larger research we made in Romania with the naval students who followed an experimental methodological plan for their specific physical training, in order to increase the level of their efficiency and their performances according to the physical and psycho-motional requests aboard ships, during good weather as well as when bad, stormy weather over the seas. The results we obtained, presented here in their short form, because we do not have room enough, showed that the improving experimental intervention proved to be extremely positive, modifying all previous concepts expressed so far, in the methodology of the naval students physical and pshycho-motional training.

Keywords: *Specific physical training, specific training, applicative swimming, testing, professional-applicative performance,*

APPROXIMATION BY PROJECTION OF SOME OPERATORS

Approximation by projection of some operators, Eleonora Răpeanu

"Maritime" University Constanța

ABSTRACT

It is studied the approximation of nonlinear-local operators through the linear ones and it is proposed the resolving scheme of some operational equations.