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SECTION I
NAVIGATIE SI TRANSPORT MARITIM

SECTION I

NAVIGATION AND

MARITIME TRANSPORT

THE COSTS FOR TREATING BALLAST WATER BY ADVANCED OXIDATION TECHNOLOGY

S.L. Drd. Acomi Nicoleta

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ABSTRACT

To provide stability and manoeuvrability during a voyage, ships use ballast water. In this process, ships transfer millions of tons of ballast water from one place to another, inadvertently transferring and discharging nonindigenous aquatic organisms into receiving waters. To avoid that, the ballast water can be treated on board. Alfa Laval in cooperation with Wallenius Water has been developed one system that clean ballast water during ballasting and deballasting operation. The paper presents how this technology action and what are the cost for implementing the system on board.

Keywords: *cleaning ballast water, cost for treating ballast water,*

DESIGNING AN INFRASTRUCTURE FOR THE HANDLING OF LARGE QUANTITIES OF OILY WASTE – PART I

Arsenie Paulica, Ion Vladut

Navigation

ABSTRACT

Extremely large volumes of oily waste (a hazardous waste) can be generated following shoreline clean-up and recovery at sea from a large marine oil spill. The local authority is responsible for the management of waste from the shoreline. Every country has developed a national department or agency responsible for taking action against oil pollution.

For instance, in UK there is an agency called Maritime and Coastguard Agency (MCA) and in Romania there is Operative Commandment for Marine De-pollution (OCMD). As it can be seen, each country has founded an authority depending on its specific capacity for oil waste handling facilities. Therefore, in this article these authorities will be called Department of Marine De-pollution (DMD).

Keywords: pollution, *hazardous, waste*

DESIGNING AN INFRASTRUCTURE FOR THE HANDLING OF LARGE QUANTITIES OF OILY WASTE – PART II

Arsenie Paulica, Ion Vladut

Navigation

ABSTRACT

Extremely large volumes of oily waste (a hazardous waste) can be generated following shoreline clean-up and recovery at sea from a large marine oil spill. The local authority is responsible for the management of waste from the shoreline. Every country has developed a national department or agency responsible for taking action against oil pollution.

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Keywords: pollution, *hazardous, waste*

TROPICAL CYCLONE - A REALLY HAZARDOUS PHENOMENON

Lecturer Alina Bostina

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ABSTRACT

Tropical cyclones are among the most destructive natural phenomenon. The impact from cyclones extends over a wide area, with strong winds and heavy rains, resulting damage to life and property. Tropical cyclones occur in North Atlantic, Eastern and Western North Pacific, North and South Indian Ocean, Southwestern Pacific and Australian area. 84 countries distributed in these areas, over the tropics, are exposed each year to the tropical cyclone hazard. Sometimes, before the tropical cyclone action, results - thousands of human lives damage.

Keywords: t*ropical cyclone, damage, risk, action areas, vulnerability*

FOG-METEOROLOGICAL HAZARD AND MARITIME ACCIDENTS

Lecturer Alina Bostina

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ABSTRACT

Oceans, seas and other large bodies of water present extremes of environmental conditions. The dominant hazards of maritime rescues are those intrinsic to the watery environment. There are several meteorological elements which are constituted in hazardous factors in the maritime zone. One of these is fog, element which can be hazardous, causing a lot of nuisances: naval accidents, transportation problems, ship wrecks.

Keywords: *fog, visibility,dew point,collision.*

THE INTEGRATED MARINE OBSERVING SYSTEM AND THE STRUCTURE OF METEOROLOGICAL MESSAGES RECEIVED ON BOARD SHIPS

Associate Prof. Ph.D. Brinduşa Chiotoroiu*, Meteorologist Mirela Niţă**, Univ.Tutor Ioana Raluca Vişan***

*,***Constanta Maritime University*
**Regional Meteorological Center of Dobrogea*

ABSTRACT

The creation of an integrated marine observing system has been necessary because of the dangers arising from adverse maritime weather and ocean conditions. Within this system, each national meteorological service involved assumes responsibility for an agreed area of the high seas and coastal waters. The weather and sea bulletins which they broadcast by the GMDSS at regular intervals provide information for the mariners on the location, movement and probably development of weather systems and associated ocean conditions.

Keywords: the integrated marine observing system, weather reports, Black Sea.

INFLUENCE OF THE PIRACY, ARMED ROBBERIES AND TERRORISM ON THE SECURITY IN THE BLACK SEA REGION

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Associated professor Phd Vasil Nikolov Vasilev, retired captain,
Assistant professor Kiril Nikolov Kolev, retired captain,

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ABSTRACT

Dynamic social changes stimulate positive tendencies so the Mediterranean and the Black Sea take the important place. The main international communications pass through the Mediterranean and the Black Sea. Each moment more than 7000 big vessels are in the Mediterranean, and 400 – 500 vessels are in the Black Sea. They carry more than 30 per cent of the world foreign trade turnover with the amount on the value of the 500 billion dollars.

Keywords: *piracy, armed robberies, terrorism, security*

MULTIVARIABLE STEERING OF THE SHIP

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ABSTRACT

The main goal of this paper was the synthesis of the multivariable regulator for precise steering of a real, floating, training ship. However, such an object is strongly nonlinear and its characteristics depend on current work conditions. Therefore one of possible ways to build a proper ship's controller can be the robust control theory approach. It enables the introduction of the effects of the modeling errors, unknown nonlinearities, unawareness of the particular object phenomena into the controller synthesis process.This approach was applied with the usage of the structured singular value concept. Results, presented in the last part of the paper, comfirmed the proper steering of the ship's velocities even during full-scale trials.

Keywords: *robust control, multivariable systems, training ship, simulation model*

MATHEMATICAL MODEL FOR LARGE TANKER SHIP BEHAVIOR IN OPERATION AT OFF-SHORE TERMINALS

Lecturer Radu Hanzu-Pazara, PhD candidate
Part I

Constanta Maritime University

ABSTRACT

The present paper provides a study regarding the modern methods for determination of operational conditions and limits for a petroleum terminal built off-shore. Methods used for this study are based on mathematical modeling and applying of this in a simulation program. The mathematical model is created according with the physic laws and mathematic algorithm and the simulation must to express clear and closer to reality the situation studied. In this way for simulation is necessary to be known the real environmental characteristic, the terminal and ship used design and to express these through mathematical relations completed with a variable values data base.

Keywords: *off-shore operation, mathematical model, simulation*

MATHEMATICAL MODEL FOR LARGE TANKER SHIP BEHAVIOR IN OPERATION AT OFF-SHORE TERMINALS

Lecturer Radu Hanzu-Pazara, PhD candidate
Part II

Constanta Maritime University

ABSTRACT

The present paper provides a study regarding the modern methods for determination of operational conditions and limits for a petroleum terminal built off-shore. Methods used for this study are based on mathematical modeling and applying of this in a simulation program. The mathematical model is created according with the physic laws and mathematic algorithm and the simulation must to express clear and closer to reality the situation studied. In this way for simulation is necessary to be known the real environmental characteristic, the terminal and ship used design and to express these through mathematical relations completed with a variable values data base.

Keywords: *off-shore operation, mathematical model, simulation*

A STUDY ON THE TURKISH REGULATION REGARDING RECEPTION OF WASTE FROM SHIPS AND WASTE CONTROL

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ABSTRACT

In the Turkish sea areas, there is extraordinarily heavy vessel traffic to the great concern of not only the neighboring but all shipping countries. That intensive traffic and increasing size and speed of vessels cause occurrence of considerable number of marine casualties in the area.

Preventing of marine casualties and marine pollution are main and important issues of maritime law and practice, in every country, including Turkey. Following the related international conventions, Turkish government started putting in force all necessary legislative and administrative internal provisions needed, in order to protect all Turkish sea areas, as well as to prevent marine pollution resulted from ships and shore bases.

The *"Regulation Regarding Reception of Waste from Ships and Waste Control"* which is one of the remedies to protect the marine environment, covering all ships, Turkish or foreign flagged, sail through sea areas of Turkey and /or call Turkish ports, is the subject of the study. In this study recent legal information on the issue to the all parties is presented and examined.

Keywords: *regulations, maritime law, IMO, international conventions*

ASPECTS ABOUT THE IMPORTANCE OF PORTS POLLUTION SUPERVISION

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ABSTRACT

The problem of the environment pollution is based mainly on the evidences of a serious degradation of the natural resources (water, land, forests, biological diversity) and of the vital systems (the ozone stratum, climate, oceans, atmosphere) as a consequence of the recent acceleration of the global economic activities.

The maritime ports are considered “sensible zone” from the ecological view, as a result of the fact that they are important knots of transport placed at the junction between the sea and the land, where great quantities of goods are transshipped and stored.

The lasting development of the harbors means the adoption of certain strategies which can lead to the economical development, insuring at the same time the preservation of natural and human resources for the future, in other words, it supposes a compromise between the harbor performances and the environment protection.

The effects determined by the thinning of the ozone stratum on the plants, animals or people cannot be known precisely and in the same way the effects of rising the average temperature on Earth or the rhythm of perishing different species of plants or animals cannot be known beforehand.

The environment security takes two aspects into account: the quality of environment factors and the global impact of the environment degradation on health and economy in different countries. Any threatenig on the environment influences society and population prosperity.

This article proposes the identification of the polluting factors in connection with the way in which this is viewed also by the international legislation in this field.

Keywords: *port pollution, environment security*

THE EVOLUTION OF THE ROMAN SEA-POWER BEFORE THE FIRST PUNIC WAR

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History Departament

ABSTRACT

By the starting years of the First Punic War, the attestations of the ancient literary tradition about the Rome's involvement in maritime affairs are on and off and lacking clarity. The first two Roman-Carthaginian treaties from 509 and 348 B.C. mention navigation bans for the Roman ships, however it is very likely for the two agreements to refer to the trading vessels. The year 311 B.C. records the official foundation of the Roman naval force by the establishment of a double naval magistracy, duumviri navales. This bright start has not led to a remarkable development of the Roman fleet. A squadron of 20 ships sent by the Romans in the Ionian See was destroyed by the Tarentine fleet in 282 B.C. In 278 B.C., through the provisions of the forth Roman-Carthaginian treaty, it was set that Rome was to receive naval aid from its contrahent from the North Africa Coast. Entered into within the context of the war against Tarentum and the king Pyrrhus of Epirus, this agreement is a proof of the low development of the Roman military navy at the end of the 4th century B.C. and during the first decades of the following century.

Keywords: *Rome, Carthage, duumviri navales, coloniae maritimae, quaestores classici*

TRENDS IN MARITIME TRANSPORT RESEARCH

Cristina Nistor

Constantza Maritime University

ABSTRACT

Research activities provide new trends in maritime transport and influence in an effective way ports, terminal operations and maritime safety. Through research developments projects, the maritime-based logistics concepts replace simple transport with high quality services, well orientated towards stakeholders. This paper presents four projects of developing maritime infrastructure and transport services.

Keywords: *research, six sigma, intermodal corridors*

SHIP MANAGEMENT AND THE ISM CODE

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ABSTRACT

The purpose of this Code is to provide an international standard for the safe management and operation of ships and for pollution prevention. Recognizing that no two shipping companies or shipowners are the same, and that ships operate under a wide range of different conditions, the Code is based on general principles and objectives. The Code is expressed in broad terms so that it can have a widespread application. Clearly, different levels of management, whether shore-based or at sea, will require varying levels of knowledge and awareness of the items outlined. The cornerstone of good safety management is commitment from the top. In matters of safety and pollution prevention it is the commitment, competence, attitudes and motivation of individuals at all levels that determines the end result..

Keywords: *IMO, COLREG, ISM Code, ILO Convention*

COMMUNICATION ON BOARD SHIPS WITH MULTINATIONAL CREWS: THE IMPORTANCE OF LANGUAGE

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ABSTRACT

Language is human society's most important system of communication. However, a language means not only different words, but also a different culture and meanings. The understanding among persons requires not only knowing the literal meaning of words, but also the culture and sensitivity lying behind it. On board most of ships we find nowadays a mixture of people from different countries and continents. This means not only different languages but also different perspectives of the world and of social relations. So, it is very important for the personal and collective safety to take in account the basic characteristics of the people, according their cultures and also religions, to achieve a wellbeing climate on board and that nobody feels isolated or unnecessary hurt. Captains and officers should get some basic information about the people they have on board.

Keywords: language, culture, communication, multinational crews, safety

SPEECH ENHANCEMENT IN SPECTRAL DOMAIN USING PERCEPTUAL WEIGHTING

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ABSTRACT

We propose an improved spectral subtraction method for reducing acoustic noise added to speech in noisy environments like helicopter cockpit or car engine. This implementation uses over-subtraction method for spectral subtraction. Residual noise can be masked by exploiting the masking properties of the human auditory system. A psychoacoustically motivated weighting filter was included to eliminate residual musical noise. Simulations showed a better quality with no distortion for the enhanced speech and the musical noise was effectively masked.

Keywords: Speech enhancement, Spectral subtraction

THE CELESTIAL SPHERE

Anastasia Elena Varsami

Navigation

ABSTRACT

Imagine the sky as a great, hollow, sphere surrounding the Earth. The stars are attached to this sphere---some bigger and brighter than others---which rotates around the stationary Earth roughly every 24 hours. Alternatively, you can imagine the stars as holes in the sphere and the light from the heavens beyond the sphere shines through those holes. This imaginary sphere is called the **celestial sphere**, and has a very large radius so that no part of the Earth is significantly closer to any given star than any other part. Therefore, the sky always looks like a great sphere centered on your position. The celestial sphere (and, therefore, the stars) appears to move westward---stars rise in the east and set in the west.

Keywords: *celestial, sphere, navigation*

SEA-ICE RELATED TERMINOLOGY

Prep. Univ. Ioana Raluca Vişan

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ABSTRACT

The purpose of this article is to provide an overview over some important sea- ice terms as they appear in the context of marine meteorology, and to explain briefly the process of ice accumulation on ships. While the importance of sea ice in the global climate system has received increasing attention during the latter half of this century, the sea-ice cover has long been of significance for navigation and other human activities in the polar and sub-polar oceans. Out of these long traditions in polar travel, sea-ice nomenclature systems have evolved in different languages and cultures. For operational and scientific purposes, the Sea Ice Nomenclature of the World Meteorological Organization represents a synthesis of such existing systems and has become the international standard nomenclature.

Keywords: *sea-ice terminology, ice accumulation on ships*

THE EXTERNAL COSTS OF SHORT SEA SHIPPING. ANALYSIS WITH SELECTED SHIPS

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ABSTRACT

According to the mid term review of the EU White Paper on Transport, Short Sea Shipping is expected to grow at a rate of 59%, in metric tones, from 2000 to 2020. If we consider that the overall expected growth in freight exchanges is of 50% (also in volume), sea transport is one of the most feasible ways to reduce traffic congestion on European roads. Marine transport is a possible way to compete with road transport in certain traffics; however, mainly when assuming external costs. This paper is going to analyze on selected multimodal transport chains with a sea leg, the incidence of pollutant emissions of different powered ships compared with road transport. These pollutant emissions will be translated to environmental costs, showing in certain conditions a saving in the sea transport that would justify a kind of ecological bonus to be used to promote the sea option.

Keywords: *external costs, air pollution, short sea shipping.*

SECTION II

MECHANICAL ENGINEERING

THE RESISTENS OF SUPERFICIAL CORROSION LAYERS OBTAINED THROUGH IMPULSE ELECTRICAL DISCHARGES USING ALUMINIUM ELECTRODES

Lecturer Ph.D. eng Mihaela Barhalescu[1], Lecturer Ph.D. eng Constantin Dumitrache[2]

1Constantza Maritime University

ABSTRACT

The experimental research was made on superficial layers laid-down through electrical sparking on the steel carbon OL 37 probes, the used electrode being made from a corrosion resistant material (Aluminum).

The corrosion speed was determined through gravimetrical method; the superficial layers subjected to the corrosive agent were analyzed by atomic force microscopy.

Keywords: *impulse electrical discharges, superficial layers, corrosion resistant, the surface relief*

DYNAMIC BEHAVIOR OF MARINE PROPULSION SYSTEMS UNDER THE OPERATION FACTORS INFLUENCE

Nicolae Buzbuchi, Liviu Stan

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ABSTRACT

This paper represents a step forward toward the introduction of engineering advanced research methods for the study of dynamic behavior of marine propulsion systems. The large dimensions of this work and its both theoretical and research material developed in it via numerical simulation are witnessing the authors' effort for an exhaustive treatment of the proposed theme.

Keywords: *marine engines, propulsion systems, dynamic behavior, finite element analysis*

AN EXAMPLE OF STUDY RELIABILITY AT N.R.M.T. SYSTEM WITH „FAULT TREE”

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Prof. Ph. D. Nicolae Zidaru- *Maritime University of Constantza*
Prof. Ph. D. Garabet Kümbetlian- *Maritime University of Constanzta*

ABSTRACT

The paper describes kinematics scheme of raising platform of reagent missile throwers navale, (N.R.M.T.) 122 mm caliber. Will be also described the structure of elements, holding care to assumption to there constructive aspect.

Keywords: *fault tree, kinematics scheme, raising platform.*

FAILURE ANALYSIS OF N.R.M.T. TO DETERMINE THE RELIABILITY FACTORS

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Prof. Ph. D. Garabet Kümbetlian- *Maritime University Constantza*

ABSTRACT

The paper presents statistical results from users and from the specialisation units in artillery repairs for naval reagent missile throwers, 122 mm calibre (N.R.M.T.). We consider deficiency on mechanical and electrical mechanisms subgroups.
Results presented are used to determine the reliability of different elements of the N.R.M.T. 122 mm calibre.

Keywords: *:failure, mechanical and electrical devices, Pareto diagrames.*

AN APPLICATION OF THE PROBABILISTIC MODELS AND MARKOV'S CHAINS TO DETERMINE RELIABILITY OF N.R.M.T.-SYSTEMS

Eng. Aida Cristina Chivu- *U.M.02049 Constanta*
Prof. Ph. D. Nicolae Zidaru- *Maritime University Constanta*
Prof. Ph. D. Garabet Kümbetlian- *Maritime University Constanta*

ABSTRACT

The paper present an application of Markov's chains in study of the reliability of systems naval reagent missile throwers [N.R.M.T.] 122 mm calibre.

Probability to uninterrupted function is low; for this is necessary to equipe the system with a mechanical reserve transmission.

The analysis takes into account two cases: without a spare gearing, with two gearings in parallel running and considering all the possibilities of working. It's used matrix coefficient to establish some values of reliability factors.

Keywords: *cylinder gearing ,Makov's chains ,safety factor ,reliability.*

A NON-CONVENTIONAL APPROACH IN BALLASTING OF SHIPS

Dumitru DINU*, Irinel MOCANU**, Dan Stelian POPA***

**Constanta Maritime University, **ICEPRONAV Galati, ***Marine Training Center Galati*

ABSTRACT

Paper proposes an original solution to solve the problem of refresh the ballast water of the ship's tanks to avoid the pollution with marine organisms. After presentation of the installation, called non-conventional installation, we make a calculation. The comparison with classical ballast installation is made on a concret case, respectively on 7500 tdw general cargo ship. We mention that the paper refers only on the characteristics linked to the flow, the problem of the water resistance of the ship will be tackled in a futur workpaper.

Keywords: *ballast, ejector, non-conventional ballast installation.*

DECISION – TREE SEARCH METHODS

ING. GABRIELA – SIMONA DUMITRESCU

Affiliation

ABSTRACT

The basic principle involved in decision – tree search methods is the partition of an initial problem P_0 into a number of subproblems $P_1,P_2,...,P_k$ (whose totality represent problem P_0), followed by an attempt to resolve each one of these subproblems. By resolve we mean:
Either (i) Find an optimal solution,
or (ii) Show that the value of the optimal solution is worse that the best solution obtained so far,
or (iii) Show that the subproblem is infeasible.

The reason for partitioning a problem P_0 into a number of subproblems is that these subproblems is that these subproblems are easier to resolve, either because of their smaller size, or because of their structure which may not be shared by the initial problem P_0.

Keywords: *decision, tree, vertex, depth-first.*

THE STEINER PROBLEM

ING. GABRIELA – SIMONA DUMITRESCU

Affiliation

ABSTRACT

The shortest spanning tree (SST) of a graph has applications in cases where roads (gas pipelines, electric power lines, etc.) are to be used to connect n points together in such a way so as to minimize the total length of road that has to be constructed. If the n points to be connected are on a Euclidian plane, they can be represented as vertices of a complete graph G with arc costs being the straight line distances between the corresponding end points. The SST of G is then (provided no road junctions outside the given n points are allowed) the required minimum-cost road network. If junctions outside the given n points are allowed , then an even shorter road network may be possible, and finding it is a problem known as Steiner's problem.

Keywords: *spanning tree , graph , Steiner, vertices.*

THE SIMULATION OF THE COMBUSTION IN THE COMBUSTION CHAMBER OF THE DIESEL ENGINE

Ing. Elena Gogu

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ABSTRACT

Finite Element Analysis is a method to computationally model reality in a mathematical form to better understand a highly complex problem.Ever since its emergence, the Finite Element Analysis method captured the attention of engineers and researchers being the wide area of possible aplication as: structural engineering, thermodynamics, electromagnetism, fluid mechanics and bio-engineering.

In the present paperwork, FEA was applied to a complex and interdisciplinary theme, pertaining on the simulation of the combustion chamber of a diesel engine, the most important parameters of this process being deduced.

Keywords: *Finite element analysis, multiple species.*

THE THERMO –MECHANICAL ANALYSIS OF MECHANICAL PACKING (SEAL), USING FINITE ELEMENT METHOD (FEM) – RESULTS AND CONCLUSIONS

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Prof. Ph. D. eng. Zidaru Nicolae - *„Merchant Maritime University" of Constanta*

ABSTRACT: Using computer software "Solid Works" to generate the geometric form of the seal 's rings and "ANSYS-9 WORKBENCH" program for the FEM analysisi to calculate mechanical stresses and thermal loandings of a mechanical seals as a part of the centrifugal pumps working in an oil refinery.
The goal of this analysis is to improve the design of the seal.

Keywords: *mechanical seal; thermomechanical analysis; mechanical and thermic stresses and strains; equivalent stress; finite element nets (mesh)*

SIMULATION OF THE FRESH WATER COOLING SISTEM

Andrei Nicolae MARCU, Liviu-Constantin STAN

Maritime University of Constanta

ABSTRACT

In the preliminary work made with help of lookout program we achieved cooling system of engine Sulzer RTA 84.The achieved simulation describes the function of fresh cooling system, component elements, and alarms. In the same time we compare real installation which we have on aboard.

Keywords: *fresh water cooling, sea water, coolers ,pumps.*

MATHEMATICAL MODEL OF THE CHP PLANT BASED ON IC RECIPROCATING ENGINE

Feiza MEMET

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ABSTRACT

This paper proposes a mathematical model of the CHP (Cogeneration Heat and Power) plant, small combined heat and power plants being convenient for education and training sector, where number of operating hours is quite low. By using CHP, universities can increase efficiency, obtain lower green house gas emissious and lower costs of energy.

In this work, the CHP plant is dimensioned taking into account only heat requirements, CHP plant being based on a IC reciprocating engine.

Keywords: *congeneration, gas engine, energy, cost*

POLYMER FLOW BEHAVIOR IN INJECTION MOLDS (I)

Alexandra Nita

Constanta Maritime University

ABSTRACT

This paper presents the polymer flow behavior in injection molds. The first part of the paper proposes to explain the theoretical presumptions and the second part intends to demonstrate them using CAE simulation. Flow technology is concerned with the behavior of plastics during the mold filling process. A plastic part's properties depend on how the part is molded. Two parts having identical dimensions and made from the same material but molded under different conditions will have different stress and shrinkage levels and will behave differently in the field, meaning that they are in practice two different parts. The using of Moldflow analysis during the initial design stage will improve quality and the mold will be design for the optimum filling pattern, while these effects can be controlled and the full benefits obtained.

Keywords: *polymer flow, injection mod, CAE technology*

POLYMER FLOW BEHAVIOR IN INJECTION MOLDS (II)

Alexandra Nita

Constanta Maritime University

ABSTRACT

This paper presents the polymer flow behavior in injection molds. The first part of the paper proposes to explain the theoretical presumptions and the second part intends to demonstrate them using CAE simulation. Flow technology is concerned with the behavior of plastics during the mold filling process. A plastic part's properties depend on how the part is molded. Two parts having identical dimensions and made from the same material but molded under different conditions will have different stress and shrinkage levels and will behave differently in the field, meaning that they are in practice two different parts. The using of Moldflow analysis during the initial design stage will improve quality and the mold will be design for the optimum filling pattern, while these effects can be controlled and the full benefits obtained.

Keywords: *polymer flow, injection mod, CAE technology*

USING OF CONTROL TUBE FOR ADDITIONAL FLUSHING IN DOWN THE HOLE HAMMER DRILLING

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ABSTRACT

Down the hole pneumatic hammer constitutes an economic solution of drilling, used in dry rocks, with great degree of hardness, obtaining great velocities of advance (up 36 m/h). The using of powerful compressors, recently screw type, it has allowed the extension of that method of drilling. The elevation of boring dust imposes a great air feed, especially in the presence of water; the air is introduced by two circuits, the first through the engine and the second through the control tube. The dimensioning of the control tube is important to realize an efficient circulation in the well and assuring the continuity of drilling. The present article uses the finite method element, compared with experimental data, to establish useful information in the design of the pneumatic hammer.

Keywords: *down the hole hammer, air drilling, control tube*

THE CALCULUS OF ATTENUATORS OF PRESSURE GAS SYSTEMS

Ion Pană

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ABSTRACT

To avoid vibration problems and to optimize the dynamic behavior, it has to realize a pulsation analysis during the design stage of a compression installation. In the 5th edition of the API Standard 618 this analysis is mandatory in a design approach 3 analyses. The article concerns using of the numerical methods in the design of an attenuator in pressure gas systems. We use program Comsol, acoustic section, to generate and analyze the model. The results are presented comparatively with the analytical method of calculus, based on matrix calculus, using for this purpose the Matlab program.

Keywords: *noise, vibration, compressor, attenuator, numerical simulation.*

FUEL SPRAY

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ABSTRACT

That paper presents a model for atomized non-evaporating liquid spray injected in diesel engine. The method consist of a fully interacting combination of Eulerian fluid and Lagrangian particle calculation.

Keywords: spray, interaction, particle, probabilistic

ANALYSIS OF VIBRATION PARAMETERS OF SHIP GAS TURBINE ENGINES

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Maritime University of Constanta

ABSTRACT

This paper presents a method of vibroacoustic control of ship gas turbine engines. Analysis of recorded parameters makes it possible to identify unbalance of rotors, as well as sources of the unbalance. The presented software ANALIZA makes measured data storing and processing for engine diagnosing purposes possible.

Keywords: *gas turbine engine, technical diagnostics, vibrations, database*

SHIP STRUCTURE DYNAMIC ANALYSIS - EFFECTS OF MADE ASSUMPTIONS ON COMPUTATION RESULTS

Liviu-Constantin STAN, Adrian SABAU

Maritime University of Constanta

ABSTRACT

The paper presents identification of main errors which may occur during dynamic analysis of ship's hull and superstructure. The investigation was realized on the basis of calculations of natural and forced vibrations. The analysis was performed for cargo ships with typical propulsion system. Multi-variant computations of ship vibration were carried out with the use of previously identified excitation forces. A computation method for excited vibrations of ship hull and superstructure was developed.

Keywords: *hull vibration, superstructure vibration, natural vibration, excitation forces, errors of finite element method.*

THE THEORETICAL STUDY OF THE EXCITATIONS INDUCTED BY THE PROPELLER TO THE SHAFTS OF THE NAVAL ENGINE

Liviu-Constantin STAN, Nicolae BUZBUCHI, Adrian SABAU

Universitatea Maritima din Constanta

ABSTRACT

In the last decade, the continuous growth of the commercial ship's dimensions and the power of propulsion installations raise a lot of technical problems to the projectors and ship builders.

One of the most important problems is the vibrations on board of the ship. Vibrating phenomenon is of high interest because they affect simultaneous: the endurance of different parts of the structure of the ship, the technical condition of several machines and devices on board, the comfort of the crew.

The main sources of excitations on board are: the main engine, the propeller and the effects of the sea. The propellers can stimulate vibrations to the ship in two different ways: forces and torques, transmitted to the hull through the line of shafts and by fluctuating the pressures on the aft submerged side. A very good analysis on this phenomenon is conducted with the help of the program CATIA, in which by giving values to several reestablished parameters we can observe the simulation of the vibrations, torques and critical points exercised on the line of shafts during the operation of the main engine.

Keywords: *vibrations, wiping, springing*

SECTION III

ELECTRICAL ENGINEERING

THE OFFSET OF THE HALL MICROSENSORS

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ABSTRACT

An essential parameter in the setting up of the performance of the measurement systems that uses Hall microsensors is the magnetic offset of such devices.
This paperwork presents the structure, the operating conditions, and the main characteristic for the Hall plates and for vertical bipolar magnetotransistor
By using numerical simulation, the values of the offset-equivalent magnetic induction for the two analysed devices are compared and it is also emphasised the way in which choosing the geometry and the material features allows getting high-performance sensors.

Keywords: the offset voltage, *the offset equivalent magnetic induction , the offset collector current:*

DC MOTORS ROTATION INVERSION

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Abstract:
Driving DC motors with integrated circuits seems at first to be rather simple. Yet by analyzing the actual application it is possible to see if there exist conditions causing stresses to the IC during operation which in the end can cause failure.
With proper design and analysis in critical applications it is possible to avoid conditions which lead to IC damage.

Keywords*:* *current flow, external control loop, DC motor, dynamically during,. the motorís rotational velocity*

AN AUTOMATED SYSTEM FOR THE VOCAL SYNTHESIS OF TEXT FILES IN ROMANIAN

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ABSTRACT

This article's aim is to present an automated system used in obtaining audio signal by converting information in text format– only in Romanian language, into speech. Such a system may have multiple uses, from facilitating the access of sight impaired persons to practically any software, to reading highly expressive texts, such as a theater plays, for any type of auditorium. In the first part, there will be exposed the main existent methods, with their strong and weak points. Afterwards, there will be presented a technique implemented by the authors, consisting in concatenating the prerecorded syllables, stored in a data base. The final part contains the experimental results, along with issues that may appear in several cases, as well as eventual solutions, with referrals to the practical application, about to be developed. The article ends by mentioning the conclusions about the facts above, as well as a few suggestions of possible later research.

Keywords: *speech synthesis*, concatenation, automated system, syllables, Romanian language

WiMAX 802.16 NETWORK SECURITY ASPECTS

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ABSTRACT

"Worldwide Interoperability for Microwave Access" (WiMAX) represents one of the most important technologies of the moment when we are talking about providing Broadband Internet using wireless connections. As a wireless protocol, WiMAX has an additional set of security threats not faced in cable systems. Because the DOCSIS protocol was developed for cable modems, not wireless systems, the original 802.16 standard does not provide enough security for the intended purpose. The standard threats for wireless systems still apply to WiMAX systems, in particular all the attacks to the higher levels. We present in this article an overview of the security aspects of this standard.

Keywords: *WiMAX, security, wireless, standard 802.16*

EXPERIMENTAL TESTING OF DECISION MAKING CAPACITY UNDER CRISIS CONDITIONS

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ABSTRACT

The work presents the results of the scientific experimental research to design and experiment a new procedure for computer-aided testing of maritime students regarding their decision making capacity under crisis conditions. A software implemented testor is described, which is meant to the experimental testing of decisional behaviour and the experimental outcome.

Keywords: *computer-aided testing, decisions, crisis, merchant marine*

ASPECTS REGARDING THE DETERMINATION OF THE ELECTROMAGNETICAL LOW FREQUENCY FIELD AND IT'S INFLUENCE OVER THE ENVIRONMET

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ABSTRACT

The explosive development of the electricity users and of information exchange lead to important problems regarding the influence of the electromagnetic field over the environment.
The power system components- the electrical grid and power substations – represent an important impact source for the environment.
In this paper there were made some determination of the electromagnetic field in the immediate vicinity of the high voltage electric lines and of the electric substations and we have noticed that their values respect the norms but, in the near future a correlation between the electromagnetic fields and the lines currents is required.

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Keywords: *magnetometer, active sensor, superior harmonics.*

DIAGNOSTIC SERVICE USE CASE

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ABSTRACT

Among the factors with a negative impact on the effectiveness of the employee activity at their work place we may mention the state of psychical fatigue, health, etc. The effectiveness of employee activity depends on the specific technique and methods but it is also influenced by comfort and the states enumerated. To facilitate the future implementation of an electronic prescribing system, this case study modeled prescription of the employee activity in various emotional states.

Keywords: monitoring, activity, scenarious, model, actor

ANALYZING A DAY OF STOCK EXCHANGE USING CLUSTERING

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ABSTRACT

Nowdays, a great number of humans invests in stock and shares at Stock Exchange. In order to win on this market, it is necessary exist intelligence and analysis capacity. Clustering method, a member of data mining group, allows us to identify existent groups in a volume of analyzed data. This article proposes and tries to promote data mining methods in stock exchange analysis, presenting an example of applying clustering methods in the analyzing a day of Stock Exchange.

Keywords: clustering, stock exchange, Euclidian distance, data mining

THERMAL NOISE OF MAGNETIC MICROSENSORS STRUCTURES

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ABSTRACT

The paper presents the results of research work regarding the analysis and optimization of magnetic microsensor structures realized in MOS integrated circuits technology. On the basis of adequate models these have been established the noise main characteristics for MOS-Hall plates and for double-drain MOSFET magnetotransistors.
An essential parameter in the setting up of the performance of the measurement systems that uses Hall microsensors is the signal-to-noise ratio of such devices.
The influence of geometry and material properties on these essential parameters in the characterisation of magnetic sensors performances, can be emphasised by simulating a few Hall devices structures.

Keywords: *MOSFET magnetic microsensors, signal-to-noise ratio, Hall mobility, device geometry.*

STUDY THE TRANSITORY PHENOMENA IN THE CIRCUITS WITH IDEAL ELEMENTS

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Student Pasculescu Vlad

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Abstract:
The paper presents the transitory phenomena of a.c. series RL circuits when are switch on, and d.c. RLC circuit when these are switch of. With MATLAB software and sinthethised programs, on develop time dependencies of the current and time dependencies of the generate voltage.

Keywords*:* *circuits, elements, simulation*

IMPROVEMENT IN ANTENNAS MEASUREMENT BASED BY VOLTAGE NETWORK ANALYSER

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ABSTRACT

The antenna measuring has gained an increased interest because of the recent developments of mobile Communications and wireless applications. The paper refers to the measurements of the microwave antennas. Gain and radiation characteristics, in an Elevated Range Arrangement, by the use of a Voltage Network Analyser. The architecture of the proposed Antenna Measuring Facility and the requirements imposed to its main configuration items are presented, together with practical recommendations. Numerical examples are particularized for L band microwave antennas.

Keywords: mobile communication, wireless communication, microwave antennas measurements, radiation.

ESTIMATION CRITERIA OF THE ELECTRICAL ENERGY QUALITY

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The electrical energy quality problem is bounded by the distribution electrical network by voltage quality, frequency and service quality. These three aspects must be analyzed under the perturbation incident. In this paper we present also the admissible voltage aberration, in accordance with different documents from other countries. Also we present the way of determination of the quality integral indicators of the voltage from the electrical networks.

Keywords quality, energy, voltage, indicator

FINITE VOLUME METHOD APPLIED TO ELECTRO – THERMAL COUPLED PROBLEMS

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ABSTRACT

This paper presents a possibility of modelling the electric field and also the thermal field, by taking into account the dependencies between them, through the material parameters and through the source term. Unlike the commercial software, that uses especially the finite element method, the finite volume method will be used in the modelling of the both fields. A case study will be considered. The results will be compared with those obtained by using a dedicated software (FLUX).

Keywords: *finite volume method, electric field, thermal field, coupled problem.*

SOFTWARE PACKAGE FOR THE ANALYSIS OF THE THREE-PHASE NONLINEAR CONSUMERS

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ABSTRACT

This paper presents an analysis of the three-phase linear and non-linear resistive consumers, in different variants of connecting. The relations that resulted from this analysis were implemented in a software program, with a friendly graphical interface, realized in MATLAB. The results of the simulations could be validated afterwards through experimental determinations.

Keywords: *software tool, non-linear resistive consumer, symmetrical components.*

SIMULATION OF THE LUBRICATING SYSTEM

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ABSTRACT

In preliminary work made with help of lookout program we achieved lubricating system of engine Sulzer RTA 84. The achieved simulation describes the function of fresh lubricating system, component elements and alarms. In the same time we compare real installation which we have on aboard.

Keywords: *lubricating , separators, purifiers, pumps.*

ACOUSTICAL RESEARCH OF THE SONIC AIR-JET RADIAL GENERATOR

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Fundamental Sciences Department

ABSTRACT

The acoustical research of the experimental generator designed for aquaculture water treatment technology is described in this paper. It is shown the experimental generator dimensional determination, construction and Sound Level Intensity measurements. The results show that the maximum of acoustical intensity is obtained at the equality of the nozzle slot and radial resonator slot values.

Keywords: *air-jet, generator, acoustical, intensity, slot, resonator, nozzle.*

PSEUDO-RANDOM SEQUENCES GENERATORS FOR DATA ENCRYPTION.

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ABSTRACT

Data encryption principle is presented and a new method to get large period pseudo-random sequences is introduced. The concept of "variable shift registers" is explained and the methods for elaborating and designing such circuits are described; the design procedure is illustrated by an example.

Keywords: *Encryption, Key sequence, Pseudo-Random Sequences, Variable Shift-Registers.*

ENERGY-BASED DESCRIPTORS FOR TRANSIENT ELECTROMAGNETIC RADIATION: APPLICATION TO ULTRA-WIDE BAND ANTENNAS

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ABSTRACT

Ultra-wide band (UWB) radiocommunications use non-sinusoidal waveforms as carrier signals. Time-domain characteristic functions like impulse response and time-domain reflection coefficient provide a complete knowledge on the transmitted waveform and on the reflected waveform at the antenna input, respectively. However, these functions of time are not essentially figures of merit. Thus, novel energy-based descriptors like energy gain, pulse matching ratio, and intercorrelation coefficient were defined prior to quantify the transmitted energy, the reflected energy at the antenna input, and the distortion degree of the transmitted signal.

We calculated the above energy descriptors for some relevant UWB radiating structures. The results of the novel energy-based formulation are discussed and compared to those achieved using the traditional frequency-domain formulation. It comes out that energy-based descriptors provide a more realistic view on transient radiation than the corresponding frequency-domain descriptors. As an example, it is shown that a ripple of 35dB on the frequency–domain gain of a cylindrical dipole antenna does not result in a severe distortion of the transmitted pulse although its spectrum might be centred on the frequency corresponding to that gain failure.

Keywords: *Electromagnetism, Transient excitation, Antennas*

SPEECH ENHANCEMENT IN SPECTRAL DOMAIN USING PERCEPTUAL WEIGHTING

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ABSTRACT

We propose an improved spectral subtraction method for reducing acoustic noise added to speech in noisy environments like helicopter cockpit or car engine. This implementation uses over-subtraction method for spectral subtraction. Residual noise can be masked by exploiting the masking properties of the human auditory system. A psychoacoustically motivated weighting filter was included to eliminate residual musical noise. Simulations showed a better quality with no distortion for the enhanced speech and the musical noise was effectively masked.

Keywords: Speech enhancement, Spectral subtraction

UML AND PATTERNS FOR ELECTRONIC BUSINESS

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ABSTRACT

Using models has a significant advantage. Moreover, a good model allows the documentation of the application structure and facilitates its modification later. UML has proven to be a special ingredient in development based on models approach, winning popularity among developers of electronic business. The designers use UML to create virtual models of the systems they intend to build. Although UML has been developed to facilitate the object-oriented design, it has been adapted for many other areas.

There are patterns that are used in designing process of a system and which are called design patterns. These design patterns are neither algorithms, nor reusable code or data structures, but there are descriptions of objects and cooperation that can be applied in a specific context.

In this paper, we illustrate the way an HTML page, a form or a script can be designed using UML, how patterns can be applied in designing process.

Keywords: *UML, design, patterns, development, model, e-business*

FUSES AND PROTECTION RELAYS

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ABSTRACT

Fuse and protection relays are specialized devices for ensuring the safety of personnel working with electrical systems and for preventing damage due to various types of faults. Common applications include protection against overcurrents, short circuits, overvoltage and undervoltage.

Keywords: *fuses, relays, electrical protection, protective devices, circuit breaker.*

POWER TRANSFORMERS
EQUIVALENT CIRCUIT OF AN IRON-CORE TRANSFORMER

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ABSTRACT

Transformers are devices that transfer energy from one circuit to another by means of a common magnetic field. In all cases except autotransformers, there is no direct electrical connection from one circuit to the other. The simplest type of transformer consists of two coils of wire, electrically insulated from one another and arranged so that a change in the current in one coil (the primary) will produce a change in voltage in the other (the secondary).

Power transformers are an integral part of almost all electrical transmission and distribution networks. Their reliable service is of the utmost importance in modern society which is dependent on a constant electricity supply.

Power transformers are generally used to transmit power at a constant frequency.

Keywords: *transformers, hysteresis loop, load, windings, core-steel, equivalent circuit*

SECTION IV

MATHEMATICAL SCIENCE

AND PHYSICS

SEARCHING FOR THE MIXED PHASE WITH THE MARUSYA SETUP AT THE NUCLOTRON ENERGIES

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(MARUSYA Collaboration)

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4 University of Bucharest

ABSTRACT

The description of the experimental program for searching the peculiarities of the transition from the hadronic gas to the quark-gluon phase (mixed phase) of the nuclear matter in ion-ion collisions is presented. The experimental setup allow the simultaneous detection of the neutral particles by DELTA-2 spectrometer and charged hadrons by magnetooptical spectrometer MARUSYA at extracted heavy ion beams of the NUClOTRON. The specific feature of the proposed physics program for the investigated range of nuclear collisions energy (2-6 A GeV) is the study of the nuclear matter phenomena at high baryon density and relatively low temperature.

Keywords: *mixed phase, strangeness, cumulativity, antimatter production.*

ON THE NONLOCAL SIMULATION OF NANOINDENTATION PROBLEM

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ABSTRACT

The nanoscopic scale can be considered as a lower bound to the mesoscopic scale, for which the nonlocal elasticity and the lattice dynamics yield to the same motion equations and the total potential energy expressions. Nonlocal elasticity takes better into account the long-range effects of all points of the body on one point of the body. This paper presents a nonlocal approach of the elastic nanoindentation problem. Starting to the local representation, the nonlocal solution for contact pressures is developed, obtaining finite values in all points near the contact boundary, which accords better with the experimental results..

Keywords: *Nanoindentation, nonlocal elasticity, flat punch, contact pressures*

ABOUT SOME INTERESTING RELATIONS BETWEEN THE PARAMETERS WHICH DEFINE A CATENARY CURVE

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ABSTRACT

The solution of the non-linear cable problem is one that has received a lot of attention in the literature. In this paper the static state of an inclined stretched string due to gravity is considered. When string is stretched between two fixed supports which are situated at two different levels it is well-known that the shape of the string can be approximated by a catenary who's formula depends only on tension and weight/length ratio. The main objective of this paper is to propose some relations between geometric quantities which settle the equilibrium profile for the stretched string relative to a coordinate system who has the origin in the lowest point of string.

Keywords: *catenary curve, static profile*

APPLICATION OF HE'S HOMOTOPY PERTURBATION TECHNIQUE TO JACOBI MODIFIED EQUATION

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ABSTRACT

In this paper He's homotopy perturbation method (HPM) is applied to solve the Jacobi modified elliptic equation. The obtained results show the evidence of the usefulness of the HPM for obtaining approximate analytical solution for nonlinear equations.

Keywords: *perturbation method,Jacobi modified equation* .

DECOMPOSITION THEOREMS FOR RINGS AND NEAR-RINGS

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ABSTRACT

We study a decomposition theorem for rings satisfying either of the properties $xy = x^p f(xyx) x^q$ or $xy = x^p f(yxy) x^q$, where $p = p(x,y)$, $q = q(x,y)$ are nonnegative integers and $f(t) \in tZ[t]$ vary with the pair of elements x,y. Some properties can be generalized to near-rings. We also investigate commutativity of rings and near-rings, considering some methods used by H. E. Bell.

Keywords: *distributively generated near-ring, J-ring, nil ring, periodic near-ring, zero-commutativity.*

SOME PROPERTIES OF SPECIAL IDEALS IN NEAR-RINGS

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ABSTRACT

In this paper we generalize the notion of bi-ideals from the rings to the near-rings obtaining equivalent conditions for generalized near-fields in terms of generalized (*m*,*n*) bi-ideals.

Keywords: *Near-rings, bi-ideals, generalized near-fields.*

INTERPOLATION BY LAGRANGE POLYNOMIALS

Drd. Gabriela GAVRILA

ABSTRACT

The main advantage of direct fit polynomials is that the explicit form of the approximating function is obtained, and interpolation at several values of x can be accomplished simply by evaluating the polynomial at each value of x. The work required to obtain the polynomial does not have to be redone for each value of x. A second advantage is that the data can be unequally spaced.

The main disadvantage of direct fit polynomials is that each time the degree of the polynomial is changed, all of the work required to fit the polynomial must be redone. The results obtained from fitting other degree polynomials is of no help in fitting the next polynomial. One approach for deciding when polynomial interpolation is accurate enough is to interpolate with successively higher-degree polynomials until the change in the result is within an acceptable range. This procedure is quite laborious using direct fit polynomials.

Keywords: *Interpolation, Lagrange polynomials*

SEA LINGO ONTO THE ROCKS

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ABSTRACT

The historical significance of the sea is quite obvious when one takes a closer look at a language. There is not a better example than English, the language spoken on an island. Many words and expressions originate from the nautical lingo and this is an excellent way of uplifting a language.

As the number of such 'spices' is huge, emphasis is laid on words and phrases that do not require long explanations and seem far from their expiry date.

Keywords: nautical expressions, common language, colourful vocabulary

CONCEPT AND CHARACTERISTICS OF CONTRACTS FOR THE MARITIME TRANSPORT OF GOODS

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ABSTRACT

The contract for carriage of goods by sea is not expressly defined by the The Hague Rules, but instead there are references to the "contract of carriage" indicating that it applies only to contracts of carriage covered by a bill of lading or similar document of title, in so far as such documents relate to the carriage of goods by sea, including a bill of lading or any similar document issued or pursuant to a charter party from the moment at which such bill of lading or similar document of title regulates the relations between the carrier and holder of the same.

Keywords: contract for carriage of goods by sea, bill of lading, charter party.

NEOLOGISMS IN ENGLISH LANGUAGE

Elena Marcu

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ABSTRACT

This is a very brief analysis of some neologisms in English language; this language, well-known in the whole world, has got a lot of borrowings from different foreign languages, which have enriched the English language vocabulary; these lexical terms belong to various fields: arts, sports, medicine, culinary art, politics and so on, each of them being accompanied by its etymology, the basic meaning and some expressions and synonyms.

Keywords: *neologisms*

THE T= 0 CASE OF THE SUPERCONDUCTIVITY-FERROMAGNETISM COEXISTENCE

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ABSTRACT

The aim of this work is to evaluate the conditions of the superconductivity -band ferromagnetism coexistence using a Green function method for a singlet Cooper pairing system, where the ferromagnetic order appears as a consequence of spontaneously broken spin-rotation symmetry. In this way, we get the solutions for the Green functions and the elementary excitations spectrum of the interacting system. Using a spectral representation for the correlation functions, the self-consistent equations for the order parameters are derived and their solutions at $T = 0\,\mathrm{K}$ are discussed. For this case, the relations between values of ferromagnetic and singlet pairing constants are emphasized.

Keywords: *superconductivity, band ferromagnetism, strongly correlated electron systems.*

SOME ELEMENTS CONCERNING THE ASSESSMENT OF THE TRAINING AND THE CAPABILITIES TO PERFORMANCE BY PHYSIOLOGICAL TESTING OF SWIMMERS

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ABSTRACT

This paper is presenting some assessment of the specific training level by physiological tests on swimmers. The work is inspired by testing protocols outlined by Australian Swimming Inc. Many of the protocols have already been described in specialized works in order to suggest various fitness compounds for highly trained swimmers. In the same time, even if some national level swimmers would be asked to stand some special tests it doesn't mean that would stop the creativity and inspiration of coaches and scientists to use their own methods and testing systems. We are only presenting here general issues stressing on scientific methodology in order to help the practice action.[1]

Keywords: *swimming, physiological test, submaximal aerobic/anaerobic effort, assessment, training level, performance, etc*

CONTEXTUAL DISAMBIGUATION IN MARITIME ENGLISH – A COGNITIVE PERSPECTIVE

Lydia I. Stoyanova

Nicola Vaptsarov Naval Academy, Varna

ABSTRACT: The paper presents a cognitively-oriented analysis of the meanings of the polysemous verb **to run** in a Maritime English context, establishes its prototypical meaning and describes its degree of relatedness to the other senses.

Keywords: *to run, cognitively-oriented analysis, disambiguation, prototypical meaning, polysemy*

SECTION V

MANAGEMENT AND ECONOMIC ENGINEERING

EMPIRICAL APPROACH ON CORPORATE DEFAULT VALUATION IN TERMS OF LOCALIZATION CRITERIA – EMERGING VERSUS DEVELOPED COUNTRIES: CASE STUDY ON IT COMMERCIAL COMPANIES

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PHD Candidate Cristina Maria Triandafil

Academy of Economic Studies, Bucharest

ABSTRACT

This paper consists of a practical approach on corporate default valuation according to the localization criteria. There will be conducted a case-study on two samples of companies, one located into developed countries, the other into emerging countries, in order to highlight out potential differentiations in terms of corporate default assessment. The key concept is represented by the default point and its main drivers. The statistical perspective aims to reveal out both default point and corporate finance mechanisms characteristics according to the localization criteria.

Keywords: *default point, emerging, developed, ri*sk

ERGONOMICS STUDIES ABOUT OCCUPATIONAL NOISE. EUROPEAN LEGISLATION

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ABSTRACT

Every day, millions of employees in Romania and in Europe are exposed to noise at work and all the risks this can entail. Regarding the workshop ergonomics, the noise is most obviously a problem in industries such as manufacturing, mining and construction but it can also be an issue in a wide range of other working environments like energy, transports, call centers, schools, orchestra pits, bars and restaurants, entertainment. At the same time, the noise pollution is an element with a very important influence on the human life: in residential areas, schools, public institutions, hospitals, entertainment areas). About the impact of the noise at work, one in five of Europe's workers has to raise their voices to be heard for at least half of the time that they are at work and 7% suffer from work-related hearing difficulties. The most well-known effect of noise at work is loss of hearing, a problem observed among handworkers from beginning of 18-th century. Noise-induced hearing loss is the most common reported occupational disease in the European Union. However, it can also ex-acerbate stress and increase the risk of accidents. Exposure to noise at work can harm workers' health. This article describes the effects of workplace noise and outlines the key issues surrounding noise at work, including the risks, legal responsibilities and solutions.

Keywords: *ergonomics, occupational noise, EU Directive*

THE ERGONOMICS OF OCCUPATIONAL NOISE IN CONSTRUCTION. THE MANAGEMENT OF RISKS

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ABSTRACT

Exposure to loud noises at work can cause irreversible hearing damage, workplace accidents and be a contributing factor to other health problems. Noise-induced hearing loss is the most common reported occupational disease in the European Union; noise at work can also ex-acerbate stress and increase the risk of accidents. This article provides an introduction to the management of noise in construction both before and during work on site. Also, it show how the European directive structure and the complementary standards ensure that risks to workers from noise are addressed to reduce the high personal, social and economic cost of ill health and accidents arising from noise exposure.

Keywords: *occupational noise, management of risks, EU Directive, noise policy*

SOME CONSIDERATIONS ABOUT NOISE POLLUTION AND THE WORK-RELATED HEALTH DISEASES

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ABSTRACT

Exposure to noise at work can harm workers' health. The most well-known effect of noise at work is loss of hearing, a problem observed among coppersmiths since XVIII-th century. However, it can also exacerbate stress and increase the risk of accidents. Eliminating or reducing excessive noise at work is not simply a legal responsibility for employers; it is also in an organization's commercial interests. The safer and healthier the working environment, the lower the probability of costly absenteeism, accidents and under-performance. This article describes the effects of workplace noise and outlines the main steps that should be taken to reduce and control noise at work.

Keywords: *noise pollution, hearing loss, noise reduction, noise control*

MACROECONOMIC PERSPECTIVE ON EAST EUROPEAN EMERGING COUNTRIES

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ABSTRACT

The European East Emerging countries represent an interest research topic both in terms of macroeconomic environment and corporate finance decision. Their evolution within the process of nominal and real convergence process requires a challenging analysis of the way the main macroeconomic environment affects corporate segment. This analysis will focus on the macroeconomic environment, highlighting out the way it evolved during the transition process from the centralized and planed economy to the market oriented.

Keywords: *default point, emerging, developed, risk*

EMPIRICAL PERSPECTIVE ON SOVEREIGN CEILING PHENOMENON WITHIN EAST EUROPEAN EMERGING COUNTRIES

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ABSTRACT

This paper focuses on developed versus emerging markets arbitrage in terms of investors' perception. We first perform a literature review on the topic, highlighting out both disconnection and transmission belt theories. Then we conduct a deep comparative analysis on the East-European corporate versus government spread bonds evolution during the last 10 years, 1997 being precisely the year when Basel II sovereign ceiling requirement was softened. Thus, we are interested especially in the way investors perceived East-European emerging countries afterwards. Conclusions are worthwhile in the context of the actual financial crisis from many perspectives: emerging markets attraction to foreign investors, corporate and sovereign rating interconnectivity for the countries in the sample (Romania, Bulgaria, Poland and Hungary) and corporate finance decision approach within East-European emerging countries..

Keywords: *sovereign ceiling, corporate rating, sovereign spreads, emerging*