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HOW TO DEAL WITH LABOUR MARKET COMPARISON? STAKES AND THEORETICAL ISSUES IN RELETION WITH EUROPEAN INTEGRATION

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Abstract. This paper highlights an original conceptual framework of the labour market comparison. It introduces the author's own consideration of the current cross-national comparison relative to the labour socio-economy and the questions they raise. Such questions can be qualified as epistemological ones and developed from the focus on the linkages between comparative methodologies and theories. All approaches use and systematically refer to "functional equivalences" witch nature and status may vary. Actually, these artefacts are theoretically disputed. As for the intra-European comparisons, they are also analysed with regard to the European integration process.

Keywords: *cross-national comparisons, European integration labour market.*

A PROGRAM RECOGNITION SYSTEM

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Abstract. In this work is discussed an own program recognition approach and system. The program system, represented in this report is created as an instrument for recognition of hand-written symbols on the basic of the similarly of their shape to the previously given patterns, saved as a Symbol Data Base.

Keywords: *image recognition, image data bases.*

A TECHNIQUE FOR TRANSFORMATION INDEPENDENT ESTIMATION OF SPATIAL IMAGE SIMILARITY

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Abstract. This paper presents our work in the area of image retrieval in Image Databases for images saved by spatial similarly of extended objects location. We proposed a new approach o description of the spatial location of extended objects. The approach is based on a geometric approximation. By the development of the proposed approach we enrich our former efforts for creation of effective method for image storage and retrieval from SDB.

Keywords: *image databases, spatial databases, mage retrieval*

DEVELOPMENT OF THE METHOD OF TWO IMAGES COMPARISON

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Abstract. There is suggested a new intellectual function for video surveillance system. The method of two images comparison is developed for this function realization. JPEG coding algorithm is in its foundation. There is described the way of images brightness and contrast evaluation. The result, which confirm correctness of the suggested method of comparison.

EVALUATION CRITERIA FOR APPRAISE THE OPERATIONAL PERFORMANCES OF REFLECTORS WITH REGULARY DISTRIBUTED MICRORELIEFS ON ITS WORKING SURFACES

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Abstract. The results of comparative research for reflectors which working surfaces are treated by polish or vibro-byrnishing processes. On the basis of comparison experimental researches, are proved the advantages for reflectors with surfaces processed by vibro-byrnishing over the same processed by polish.

COMPENDUOUS MODEL FOR DEFORMATION DETERMINATION AT SURFACE PLASTIC PROCESING

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Abstract. The paper suggests an enhanced compendious approach to deformation determination in cases of a contact between the tool and the work piece in various processes of surface plastic deformation (SPD). The generalized kinematical model developed by the authors for processing of the main types of surfaces by means of surface plastic deformation and designed on the basis of the concept of "processing tool effective equivalent diameter" makes it possible to unveil the general regularities in these processes.

SOME ASPECTS CONCERNING THE PRECISION INCREASING AT FOMING GROOVES USING COLD PLASTIC DEFORMATION

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Abstract. The technical paper presents the technological parameters influence upon radial beat at cold plastic deformation of exterior grooves with triangular profile. For experimental researches were use Taguchi method which has a lot of advantages, such as: reduce of experimental researches number and the results have highest them. The paper contains the following: the own experimental plan, the mathematical model took into account, the variation levels established of independent factors, the model and standard graphs, the condition of orthogonally and degree number freedom. Also, the paper contains the matriceal relation obtained and medium effects of initial parameters upon radial beat. The mathematical model was verifying using Fisher test. On the end of technical paper are present the finally conclusions concerning experimental researches done.

Keywords: *Technological parameter, radial beat, cold plastic deformation, grooves.*

THE STABILIZATION OF LOW DAMPED ASIATIC SYSTEMS BY MEANS OF FOLTER WITH REJECTIONS

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Abstract. The paper deals with the stabilization of low damped astatic systems. They show a low value of a reletive damping and consequently a higs resonance rise of amplitude frequency response. If astatism occurs in an automatic control sistem, the situation become complicated due to the exhaustion of a phasesafety of astatic element. In order to achieve the stabilization, a filter with rejections hasbeen designed. The filter is caracterized by rapid rejections of logarithmic frequency carecteristic that eliminate rise of a low damped astatic system. A functional model of a discrete filter was created to attest the properties of the filter with a continuous low damped astatic system. Experiments have proved the suitability of the filter application. The metod of filter utilization, the stability of the low damped astatic system as well as the stability assessment by the operator W will be described in the paper.

RECENT PROGRESS OF DESIGN THEORY

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Abstract. Mechanical, electrical and software engineers have different knowledge, language trening and tools. The understanding and assesement of interrelationships among the various factors involved in the design process (i.e., actors, working means, methods, information, mamagement, activities, enviroment and organisation) is a central focus of Engineering design research therefore. On the other hand they compose complex product together. His genesis is never stochastic but is made on purpose to fulfill forward stated requiremenst. Solving of this kind of problem is called like constructive problem. Processing of constructive problem solving was under developing with reference to knowledge about material, modellind of their properties and with reference to increasing of complexity of products. The objective of presented paper is multidisciplinary complex design approach and reasoning of design methodology and consequences of practice.

Keywords: *Mechanical Engineering, Intelligent Manufacturing Systems, Design Methodology, Multidisciplinary Deasign, CAD*

MORPHOLOGY AND ROUGHNESS OF Ti-6Al-2Sn-4Zr-2Mo AFTER SURFACE PLASMA GAS NITRIDING

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Abstract. Comercial titanium alloy Ti-6Al-2Sn-4Zr-2Mo became one of the most widely used titanium alloys after its introduction in the early seventies. It has a very attractive combination of tensile strength, creep strength, toughness and high-temperature stability for long-term applications up to 425°C. It uses for gas turbine components and in other applications where tis good combination of properties is required [1]. At the same time it has poor tribological properties that are typical of most the titanium alloys. It has low surface hardness and wear resistance. These disadvantages of the material limit its application [1,2]. Ti-6Al-2Sn-4Zr-2Mo was chosen for this

experimental work because it showed a good plasma gas nitriding performance in comparison with the other alloys during the tests.

A Ti-Al-Nb ALLOY INVESTIGATED AFTER DEFORMATION AT HIGH TEMPERATURES

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Abstract. This paper presents some investigations related to mechanical and structural changes when a Ti-6Al-7Nb alloy is deformed in β and $\alpha - \beta$ field and subsequent heat treated.

We have apply a special thermo-mechanical scheme of treatment and after all necessary structural investigations of samples we can report that, for this Ti-Al-Nb alloy, the deformation at high temperatures induces some specific transformation: the formation of the shear bands and the spheroidization of lamellar structures. The shear bands are presented are present both in heat treated and non heat treated sample, so by heat treatment the shear bands are not eliminated. On the other hand, same heat treatments induce a lower density of spheroid particles.

Keywords: *Ti alloys, high temperatures of plastic deformation, mechanical properties, shear bands*

EVALUATION OF THE AVERAGE MEAN APPARENT ROUGHNESS CAUSED BY THE FOULING OF THE SHIP'S HULL

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Abstract. In his remarkable paper [1], Mallone emphasized on the difference in the growth rate of the wetted surface of the ships, proposing suitable correlations. Their application can increase the exactness of all estimations of the ship's propulsion if the figures for sides and bottom wetted areas are available. Very often only the total wetted area is available especially at the investigation of the propulsive problems in service. The aim of the article is to propose a method for evaluation of average for the whole hull mean apparent amplitude of the fouling.

POSSIBILITY FOR PRECISE MEASUREMENT OF VERY SMALL CAPACITIES

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Abstract. The problem for measurement of very small capacities (of order of pF and fF) is solved through proposed method and circularity solution for the converter „capacity – constant voltage”, enabling the measurement with high sensitivity, linearity and stability as well as possibility for full compensation of parasitic capacities between the terminals for connection of the measured capacity. The converter may be used for continuous measurement of the level of bulk materials and liquids with very small dielectric permeability.

Keywords: *Measurement of very small capacities*

SYSTEM FOR REDING AND DOCUMENTING OF THE READY PRODUCTION QUANTITY

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Abstract. In the paper the results from the designing of automatic information system for reading of production quantity, which is produced in a glass workshop, trough digital printing are presented. A luminuous digital indication with neon luminous elemens, enabling good visibility in ling distance is used. The introduced developement may be applied in all discrete productions for reading and documenting of the production quantity.

TWO-DIMENSIONAL BLOCK-PULSE FUNCTIONS APPLICATION FOR IDENTIFICATION OF THE AIR POWER LINE PARAMETERS UNDE THE INFLUENCE OF LIGHTING OVERVOLTAGES

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Abstract. There is necessity to know of the power lina parameters with positive, negative and zero sequence(R, L and C). They are used when power line model is constructed. The problem solved in this paper is the application of two-dimensional block – pulse functions for identification of the air power line parameters unde the influence of lighning overvoltages. A m – file is created in Matlab for a paramerer indentification and numerical results are given.

Keywords: *parameter identification, two-dimensional block- pulse function, air power line parameters*

SIGNAL TO WHITE AND COLOURED NOISE RATIO OPTIMIZATION USING TIME-FREQUENCY MATCHED FILTERS

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Abstract. This paper proposes a new method of signal to noise ratio maximization for better underwater targets detection. Studying the properties of the underwater noise we couldn't conclude anything about his stationery, even in the restraint sense. Due this fact, the time-frequency signal processing, signal affected by the underwater noise is justified. This paper proposes a new method of signal to noise ratio optimization, method based on a quadratic filter processing. This optimization is realized using a quadratic matched filter, similar with the classic matched filter. The last paragraph of this paper propose a time frequency filter matched to a signal affected by a colored noise (real undersea noise).

Keywords: *signal-noise ratio, quadratic detector time-frequency filter, hydroaccoustic signal.*

SWITCHED RELUCTANT MOTOR (SRM) NON- LINEAR INDUCTION MEASUREMENT OF PHASE WINDING

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Abstract. In the simulation design and SRM modelling is important to know phase winding induction of "SRM". The present paper analyses the behaviour of a specific ship design using the seaway program and simulating the standard representation of the wave energy distributions. Using the strip theory the three-dimensional problem of the hydro mechanical and exciting wave forces and moments on the ship are solved by integrating the two-dimensional potential solutions over the ship's length.

Keywords: *Switched Reactant Motor (SRM), measurement, nonlinear inductance*

INVESTIGATION OF PROBLEMS OF CONVERGENCE AND NUMERICAL METHODS OPTIMIZATION IN MEASUREMENT OF HARMONIOUS SIGNAL PARAMETERS

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Abstract. The paper presents description of the investigation of the problems numerical methods convergence and optimization in measurement of harmonious signal parameters on the example of Newton method.

MODERN TOOLS AND SYSTEM OF INFORMATION REPRESENTATION FOR CONTROLLER'S CENTERS AND BIG HALLS

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Abstract. This paper presents some modern tools and system of information representation for controller's centres and big halls, principles of organization of such system, functions of each subsystem. There are an analysis of system of information representation and some examples on the base of video cubes. There is a wide range of tools, letting to realize such system.

Keywords: *information representation, video cubes, intellectual controllers.*

SIMPLIFIED MATHEMATICAL DESCRIPTION OF A SYNCHRONOUS GENERATOR FAR COMPUTING OF THE TRANSITIONAL PROCESSES THROUGH MOMENTARY VALUES OF THE OPERATING CONDITIONS IN PHASE COORDINATES

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Abstract. This paper presents the basic results from an analysis of a synchronous generator mathematical description, made by implicit integration of second order. It shows that the know description of the synchronous generator in phase coordinates with time-depending coefficients can be reduced to a description with permanent coefficients when applying implicit integration. The mathematical description thus grouted simplifies and considerably accelerates the computing procedure. In this way it becomes possible to develop computer programs calculating modes of a short circuit by the moment values of phase mode parameters.

CONSIDERING THE TRANSITIONAL PROCESSES IN ELECTRIC POWER NETWORKS STUDYING THE STATIC STABILITY OF THE ELECTRIC POWER SYSTEM

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Abstract. This paper considers a methodology for studying the static stability of EPS by implementing detailed mathematical descriptions of its elements. It shows and analyses the results from a study of a sample EPS the elements of which are presented by simplified descriptions. It illustrates the possibility to obtain quantitatively and qualitatively reliable results from simplifying models ignoring the transitional processes in the stator coils of the generators in the electric power network.