

ABSTRACTS

TECHNICAL SCIENCES

Aliyeva L. I., Derevenko I. A., Martynov S. V., Goncharuk K. V. Rating technological deformability in stamping parts with flange // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

During the deformation, stress state when the index does not remain constant, plasticity usually estimated on the basis of the so-called failure criteria. The essence of failure criteria is to use the model of metal accumulation of damage, depending on the magnitude of accumulated strain and stress. Consider the process of landing on a tubular blank flanges. The simulation was performed to determine the plasticity resource exhaustion in cold deformation of aluminum alloy AD3. The evaluation was conducted with the use of a software product Qform 2D based on the finite element method. The simulation process of landing, it was found that the flow of material in two divergent directions. The boundary separating the flow is approximately centered workpiece slightly shift towards the outer flange. This is explained by the presence of additional tensile stress in the radial flow of the metal. At the ends of the flange formed a sphere that is a consequence of braking of the outer layers of metal (which are in contact with the tool) due to contact friction. It was found that the critical area in which the risk of fracture is the outer periphery of the flange, which has been investigated and further. The studies obtained logarithmic degree of deformation, which will occur at the beginning of the destruction of the outer flange of the sleeve.

Vasilenko N. A., Vasetskaya L. A., Kostenko I. G. The structure and the properties of nitride coatings obtained by reactive dispersion of titanium and chromium targets on the bases substrates of structural instrumental steels // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The structure, growth kinetics of and the properties of titanium and chromium nitride coatings, implanted deep into steel bases by ion implantation method have been studied by the authors. When using titanium target surface layer has been found to be formed which has a «composite-base» system hardness 2.2 times greater and when using chromium target – high adhesion (2.156 GPa). The use of ion-plasma processing enables to get steel with modified protective coatings on the fine-size steel tool.

Grushko A. V. Determination of hardening during deforming pulling of heavy wall pipe // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The aim of the research is to find the regression models of maximum hardening, strain gradient and the thickness of the deformed layer, depending on the process parameters during deforming pulling heavy wall pipe. Quadratic models of maximum hardening, strain gradient and the thickness of the deformed layer are obtained depending on the process of the parameters: tension, angle of the tool, wall thickness, diameter of the workpiece, the friction coefficient, the number of cycles and the pull of the flow curve (modulus and hardening rate by P. Ludwig). The most influencing factors on the response function are identified. The features of the researched function behavior depending on their arguments are shown. The taper angle tool influences the maximum deformation of hardening, the relative tightness influences the depth of the deformed layer. To provide the necessary reinforcement according to the obtained model, it is necessary to vary the simultaneous change in the factors of influence.

Dyhtyarenko V. N., Kozub A. N., Kucherov D. P. Algorithm setting weight koefitsiyententov neurocontroller when managing dynamic objects // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The paper considers the problem of setting neurocontroller taking part in the control of a dynamic object with unknown parameters. Setting neurocontroller carried out by his learning as a result of the next test. Feature of the algorithm is to fix the faulty control situations that are introduced in the learning algorithm, giving it the properties of the self-learning. The proposed algorithm provides a quasi-optimal on time and accuracy of control in the control of a dynamic object. A version of the technical implementation of the control system neurocontroller is proposed, as well as the results of its modeling.

Kakhovskiy M. Yu., Maksimov S. Yu., Fadeeva G. V., Suprun S. A., Oleinik Yu. V. Arc's stability studies of components-stabilizers in slag-system of wet underwater welding // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The article presents the results of studies of components-stabilizers on stability's influence of arc in wet underwater welding of high corrosion resistant steel type 18-10. Fluoride slag systems are characterized by relatively low arc stability and the aim of research was to identify the stabilizer, which has the most stabilizing influence on the arc in wet underwater welding. It is shown that the introduction of stabilizer-components of self-shielded wire has a positive impact on improving stability and welding arc process.

Klochko A. A. The use of high-speed heavy-duty gear cylindrical gear // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The decision of pin-hydrodynamic theory is considered at the contact of high-speed tyazhelonagruzhennykh of gear-wheels of heavy lathes, which consists in the joint decision of three interdependent tasks hydrodynamic, pin and

thermal – for a lubricating matter and attended evol'ventnykh surfaces. Practice of exploitation of gearings proved the real realization of the pin- hydrodynamic mode of friction convincingly, where thickness of lubricating layer considerably excels the heights of mikronerovnostey, it is experimentally well-proven that calculation longevity of gearings can be assured only at a certain betweenness by the thickness of oily layer and mikrogeometriy of contacting surfaces.

Lutaja A. V., Kartamyshev D. A. The investigation of influence of change of reference impedance value on the arc length of the electric arc furnace // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

A model of the three-phase electric circuit of electric arc furnace was developed. It allows to take into account the nonlinearity of electric arcs. A model of an management system by the movement driven of electrodes of the electric arc furnace with impedance movement regulators of the electrodes and with P-regulators in each phase. The models proposed graphics of change of the instantaneous values of the phase currents and voltages of the arcs in normal operation of the electric arc furnace. Using the model developed an estimate of the estimation of influence of change of value of the reference total impedance of the arc on the electric coordinates of the electric arc furnace. It is proved that this model reacts to applied external influences by the change of value of the reference impedance of the arc according to the characteristics of the electric arc furnace. Practically confirmed that the range of the lengths of the arcs during the melting process is in the range from 0.2 meter to 0.7 meter. It is supported by studies of other authors.

Mana A. N. Detection of gradual destruction of non-metal composite material based on mathematical modeling // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The assertion on the expression of the process of phasing water jet firmware holes that revealed that at the initial time of the stresses is insufficient for the active destruction of the work piece in the center hydroplane. Also shows the results of modeling the stress state of the work piece and performed their comparison with experimental data, suggest ways to combat the negative impact of the hydrodynamic effects of the jet before the start of the active destruction. Proposed create pressing ring indenter, which allows partially redistribute the load in the layers of the work piece, thus ensuring the spread of the possible occurrence of the boundaries of destruction at a distance of 0.2–0.25 mm from the periphery of influence.

Myronenko E. V. Optimization konstruktsyy sbornyyh reztsov on krupnykh tokarnyyh stalls // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The paper describes the design, the results of expert studies and comparative production testing teams of cutters for roughing structural steels for large lathes. For comparable structures cutters to get the actual value of the generalized indicator of quality, the ratio of failures, reliability, durability, maintainability, and specific consumption of tungsten carbide. The design of a modular tool that provides increased productivity, reduced costs of construction and operation.

Oleyarnik A. V., Marilov N. G. Technical problems as a condition of professional qualities of future engineers // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The article describes the development of professional skills of future engineers, on the solution of technical problems in the specialty; proved that the problem is urgent and requires careful study.

We prove that the method of teaching used by simple experimentation without vatmetra and phase meter allows you to define the parameters of the coils are investigated, and build a vector diagram for a counter and agreed upon magnetization switching between the coils of inductive coupling.

Ravskaya N. S. Study mnohozubyyh ynsumentov s Using of computer systems // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

In the work described method for determining the loading of the cutting disc Multi-point tool with the help of computer systems design 3d. The examples show how to define the cutting load of the saw blade cutting circuit which consists of 2 teeth with different angle in plan and a no nzero angle of inclination and the end mill with exchangeable plates with triangular shaped cutting part. The parameters of the cutting part was defined as the amount of material that is removed the tooth in one cycle of the main cutting motion is then subtracted the volume of material recorded with teeth that have worked before, all these operations are performed commander – draw a sketch on a trajectory.

Rohanov L. L., Eremkin E. A., Popivnenko L. V., Bojanov P. A. Driver percussion stand on the basis of the hydro-elastic actuator // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

This article describes a new driver for testing products on impact. The basis of the designed plant is used to drive the table and the product of the energy of the pre-compressed elastic fluid, which allows for relatively small dimensions to receive considerable effort and acceleration. The topicality of the research is defined. New design shock stand developed. The design ensures the expansion of technological and operational capabilities by controlling the amplitude, shape and duration of the shock pulse. Also, the design allows obtaining pulses with almost vertical front. Increases the efficiency of the hydro-elastic drives. Recommendations for experimental study of the installation and its use are available.

Scriabin S. A. Chaika D. S. Non-contact zones influence on broadening when rolling the billets in isothermal deformation conditions // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The mechanism of the effect of non-contact zones on broadening during milling cylindrical billets in oval calibers. For a theoretical study of the broadening was applied during milling, finite – element program for three-dimensional

modeling technology forging QForm. Conducted comparative calculations of physical and geometrical parameters of the cylindrical section rolling billets and blanks without non-contact zones in the deformation zone, allowed to reveal the mechanism of the effect of having a non-contact zones of the workpiece on the broadening. To calculate the influence of non-contact zones, it was a formula depending on the curvature of the oval caliber and the workpiece diameter and introduced a correction factor in the formula to determine the broadening to incorporate the effects of non-contact areas.

Fedotov A. N., Mironov Y. V. Study podvedenyia magnetic field in the area rezanyia at tochenyia // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

To improve the processing capability of alloys great strength, giving the chip fracture is necessary to raise their flexibility and softening in the cutting zone. During plastic deformation of the surface of cutting a workpiece has some barrier effect. A promising way to accomplish increasing (or decrease) the dislocation mobility is the use of a hybrid magnetic pulse-blade processing of structural materials. Thus, the problems to be solved in this work is the simulation of the magnetic field distribution in the cutting zone harvesting of non-magnetic iron-carbon alloy as an example of the process of turning. Best variant is as follows: magnetic closure through the cutting insert and the workpiece when the workpiece and the movable contact part magnetic via a roller or bead. To confirm proposed hypothesis on the application of the MPE with the blade must be processed further carrying out of natural experiments.

ECONOMIC SCIENCES

Abazina O. A. Methodical approach to material incentives on energy-activity berezhennyya workers aviation enterprises // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The submission article gives the order of formation with the consumer part of the net income of the enterprise energy-saving, justified by the incremental approach to the distribution of the fund among employees, depending on the values of the individual coefficients of labor participation in energy saving activities. Proposed procedure for calculating the redemption amounts of debt obligations of employees who have been working to save energy. The author also discussed issues of material incentives for energy-saving activities of employees of air transport enterprises. Justified form of material incentives for energy saving activities of employees of air transport enterprises in the form of repayment of their debt by enterprises and public obligations.

Arefev S. O. Going near the choice of factors and criteria at the ground of type of restructuring of enterprises of aviation industry // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The article summarizes the institutional component of the transformation of the aviation industry and grounded approach to the choice of macroeconomic factors and criteria for determining the type of restructuring of the enterprises to build effective mechanisms as a basis to ensure it meets their needs exercise to maintain and develop processes. Basic connections of situation are also certain that folded in industry and the basic necessities of transformations are outlined on the factors of influence on efficiency of it functionings

Gritsenko N. V., Yakovenko V. G. Formation hybkoy models management personnel at railroad Transport // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The transition to market relations requires a transformation of the system of personnel management. Today it is quite important because it is the interaction and clear team can provide implementation strategies rail industry and rail transport interaction with the environment, as well as the effective solution of basic problems. The role of the worker, who becomes a passive performer active website production enhances competitiveness and achieve their business objectives.

Dorofeyeva A. A., Samuylov V. O. Analysis of motivational personnel classification // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The analysis of the approaches to the classification of human needs, motives of staff of enterprises. Investigated the classification of the types of employees in relation to the work they do, that is motivational classification of personnel. It is proved that the classification of staff motivation is the base for understanding the motives of work, possible changes in the dynamics of these motifs, including managed change. However, it only reflects a motivational poten al employee performing a specific job, and is not suitable for the description and classification of forms of organizational behavior of the staff. These aspects, which should be taken into account in the classification of organizational behavior of employees of enterprises.

Kaminsky P. D. Analysis of the development of large industrial complexes in the conditions neoindustrialization // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The analysis of the development of large industrial complexes in the conditions neoindustrialization revealed that in terms of neoindustrialization Ukraine is in the fourth cluster, with an average degree of development of the tertiary sector and a significant backlog on the role of the Internet and research and development. At the same time, Ukraine is potentially more advantageous position than its neighbors, such as Russia, as the share of machinery

in its exports three times as much. Degree of diversification of export of Ukrainian goods above. In addition, metallurgical products is the product of the higher degrees of processing than the fuel and other mineral resources. Prospects for future research is to develop a concept neoindustrialization Ukrainian large industrial complexes. The concept should include two main areas of strategic development of a large industrial complex – the development of the information sector and the production sector.

Kasyanov N. V., Levshova Yu. A. Complex evaluation of model energy in region // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The article describes the methodological approaches to forecasting the volume of demand for electricity within the industrial region. The purpose of the article is to model the energy consumption in the industrial region, using complex models of long-term forecasting of energy consumption. The proposed set of models includes: a model of energy intensity of the economy, energy-consumption industries to create regional power. Each model reflects a different aspect of energy consumption. The described model system allows to receive long-term forecasts of electricity consumption in Ukraine. In conjunction with the scenario approach this complex model is a powerful tool that can improve the quality of forecasts and management decisions.

Mykhaylychenko N. M. Adaptive budgeting – an effective management tool in crisis // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

This article explores the possibilities of adaptive budgeting as an effective management tool in a crisis economy. The conceptual model is adaptive budgeting and budgetary control reflects the sequence of stages of budgeting at different levels of government, and reveals the ties that bind budgets and sources of information of different circuits observations to be used during their preparation. Developed based on the concept of strategic thinking model adaptive planning will make the planning process at the plant at maximum efficiency by sensitive responses to changes in the environment of the enterprise and in the company as in a complex dynamic system.

Olhovskaya O. L., Lyhovych R. A. Creative web-site restaurant for enterprises of business // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

On the basis of modern mechanisms, in-use for development of web-appendixes: Bitrix framework, programming of PHP language, database MYSQL, instrument of phpmyadmin, server of Apache, language of hypertext markup Language HTML, cascade tables of styles of CSS and scripting language programming Javascript, a web-site is created for a restaurant. This web-product has a carefully thought out structure of pages which high-quality information is placed on, allows to carry out on-line order of meal from a restaurant, here supporting an operative feed-back with clients. Regular development of site is assumed by means of permanent advancement of the system with the purpose of bringing in more target audiences are on a resource, updates of existing and additions new information, suggestions of the programs of loyalty, discounts, actions.

Piletska S. T. Anti-crisis managements instrument of prevention of crisis // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

In the article theoretical approaches and practical aspects of development of anti-crisis management are considered on an industrial enterprise. The negative consequences of crisis predetermine the necessity of creation of model of the complex system of anti-crisis management economic stability of enterprise, which is an aggregate of associate measures of organizationno-pravovogo character, directed, on the prophylaxis of development of signs of crisis processes under act of external and internal environment, development of measures on intensifying of crisis processes because of the effective use of his potential, by an effective domestic and external policy. Expedience of consideration of features of display of crisis process is well-proven, kinds and aims of anti-crisis management economic stability of enterprise depending on his stage.

Tulchinskaya S. O. The study formation of state and market regulation at the research and innovation activities in Ukraine // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

It is identified the directions limitations of market mechanisms as a environment of innovational development. It is established, when the market self-regulation is not sufficient, it is advisable to use government regulation of scientific and innovation. It is proved, that research has demonstrated the need to use the experience gained combination of government regulation scientific and innovation activities with a full using of market regulators at national, regional and sectoral levels. And it should be need to use real incentive mechanisms for attracting business resource in the innovation development. However, it is clear, that the active role of the state does not guarantee economic success itself. The state functions in the management of innovation processes should not provide direct government intervention in the organization of innovation activity.

Khvyshchun N. V. Logistic potential regions of Ukraine: analysis and evaluation, formation and increase // Scientific Herald of the DSEA. – 2014. – № 2 (14E).

The use of integral approach for the determination of logistic potential of region based on the estimation of components (level of specialization of region, resource potential, geopolitical potential, infrastructural potential) is offered. The methods of analysis and estimation of logistic potential level of region are offered, which, in contrast to others, are based on the rating estimation of regions by means of calculation of integral indices of region's logistic potential. Based on the results of the analysis logistic strategy of development of region is worked out. The different types of logistic strategies for regions with low, middle and high level of logistic potential are proved.