

## ABSTRACTS

The research of the dynamic modes of work of the system drive of inclined diffusion machine by the simulation modeling / V. Kukharchuk, V. Rodinkov, A. Koval // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 7—12: fig. 5. Refs.: 6 titles.

The dynamic modes of operations of the system of duol-motor drive of inclined diffusion machine by means of the created simulation model are considered. The method of determination of influence of different factors on dynamic properties of the system of occasion is shown.

The prediction according to the method of boundary elements inputs of circular pile silos field of grain dryer / A. Morhun, O. Franchuk, D. Dovhopol // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 13—16: fig. 3. Tables 2. Refs.: 2 titles.

The circular foundation of silo is optimized according to the method of border elements. The methodology of calculation of bearing ability of circular grillage and circular pile field is brought. For comparison of work of pile in a clump and single pile on the method of border elements the nonlinear task of behavior of single pile on-loading is predicted.

The modeling of dynamic sanitary-bacteriological composition of hard domestic waste during composting in the summer season / O. Bereziuk, S. Gorbatyuk, L. Bereziuk // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 17—20: fig. 1. Tables 2. Refs.: 9 titles.

The mathematical model of dynamic sanitary-bacteriological composition of hard domestic waste during composting in the summer season is built in the paper. The dynamic sanitary-bacteriological composition of hard domestic waste during composting in the summer season is investigated.

Economic efficiency of low-cost actions of energy saving in industrial air conditioning / V. Dzhezdzhula // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 21—24: fig. 1. Refs.: 9 titles.

The main directions and economic justification of actions of energy saving in industrial air conditioning are considered in the paper. The example of calculation of economic efficiency of action of reduction of solar loading is given.

Forming of cost of insurance companies in the conditions of development of financial and innovative-investment processes in Ukraine / V. Sinelnik // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 25—30: tables 2. Refs.: 10 titles.

The analysis of factors which will have a long-term influence on forming the cost of insurance companies in the modern terms of economy development and realization of reformation of insurance market of Ukraine is conducted in the paper.

The economic security of the state with an open economy: essence and priorities of strengthening / O. Fedoruk // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 31—37: fig. 1. Refs.: 25 titles.

The article investigates the evolution of the concept of economic security, generalizes the theoretical approaches to the determination of essence and content of economic security as polysystemic category, allocates the main theories of development of national economic security, and substantiates the necessity of strengthening the economic security of the state under current conditions.

Increase of competitiveness of coal producers on the basis of estimation of their capitalization / E. Rassuzhdai, O. Shestakova // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 38—41: refs.: 7 titles.

The Factors increasing the competitiveness and market capitalization of coal producers are analyzed. The mechanism of estimation of capitalization on the basis of determination of cost of enterprise and privatizing is substantiated. Methodology of determination of cost of coal producer with the use of model of economic value-added is suggested in the paper.

Prospects of increase of management efficiency by innovative activity of domestic enterprises / I. Yepifanova // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 42—45: fig. 2. Refs.: 10 titles.

The essence of the process of innovation management companies is considered in the paper. Stages of industrial innovation are estimated. Ways of increasing the effectiveness of management innovation of domestic enterprises are formed.

Identification of the content and ranking of the factors limiting the development of venture business on the basis of Delphi technique / B. Grabovetskyi, V. Zianko // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 46—54: refs.: 9 titles.

There have been analyzed the factors limiting the development of venture business on the basis of Delphi technique. Influence level of selected factors was evaluated; selected factors were ranked by their impact on the process under study. Also there have been selected the factors limiting the development of Ukraine venture business.

Econometric modeling of real interest rate for the USA, China and their comparison between the Ukraine's model / V. Zianko, P. Zianko // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 55—62: refs.: 5 titles.

The main factors, which influence the level of real interest rate have been investigated. Econometric models of real interest rate for the USA, China and Ukraine were constructed and peculiarities of the built models were identified in the paper.

Identification of the relationship among the corruption and the shadow economy in European countries in 2003—2012 years / S. Shtovba, O. Shtovba // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 63—68: fig. 4. Tables 3. Refs.: 9 titles.

The dependence among the corruption perceptions and the size of the shadow economy for 30 European countries for period 2003—2012 is studied. The data of corruption perceptions are provided by Transparency International. The sizes of the shadow economy are assessed by data of F. Schneider. The groups of countries with complementary relationship between corruption and the shadow economic activities, as well as to the competitive relationship are identified. The relationship among the corruption perceptions and the size of the shadow economy for the rest 12 countries is not observed.

Assessment of financial and organizational support of the state support for the development of hop growing in Ukraine / D. Sainskyi // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 69—74: fig. 1. Refs.: 14 titles.

The current state of the financial and organizational support of hop growing in Ukraine and current documents defining it is analyzed in the paper. It is set that the government special purpose and branch programs of development of this industry are absent for today. It is shown that development and acceptance of such programs on a period of 2018 will give an opportunity to provide strategic bases of development of industry, harmonize a national legislation with the requirements of EC, to create a social, financial and organizational policy, legal and administrative arrangements concerning the operation of hop growing farms and the protection of their rights for the guaranteed marketing of these products.

Estimated assessment of U-shaped pipe emitter parameters, submitted like contingent (estimated) rectangular radiant energy source / A. Yakovlieva, A. Pavlenko // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 75—78: fig. 1. Refs.: 4 titles.

To determine the surface of heat flow density in different parts of the floor inside is invited to provide a system of emitting tube and reflector surfaces of «dark» U-shaped pipe emitter in the form of conditionally rectangular heat source. The formula for the evaluation of estimated temperature of the source was obtained. Comparative analysis of thermal power calculated values was held with offered dependence and averaging formula.

Mathematical model of diagnosis system of braking circuits of inverter frequency drives / S. Levytskyi, A. Bartetskyi // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 79—83: fig. 5. Refs.: 6 titles.

The mathematical model of the diagnosis system of braking circuits of inverter frequency drives, which takes into account a voltage derivative on the filter's condenser and allows diagnosing of brake circuit during the drive working, is developed in the paper.

Deblurring filter design using second fundamental form of image surface / R. Kvietyni, O. Sofyna, Yu. Buniak // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 84—88: fig. 1. Refs.: 16 titles.

High resolution deblurring by one step convolution of initial image with estimated inverse point spread function (IPSF) is offered. The IPSF is found basing on geometric properties of image surface characteristic in the manner of the second fundamental form (SFF). It was shown that the SFF can be used for blur elimination by simple subtraction of the SFF value from image signal. To reduce the influence of fluctuations on the form of the blur function the regularization was applied, which minimizes the functional area in the form of a curved surface.

The dynamic characteristics of push-pull direct-current amplifiers with separate channels for signal conversion / O. Azarov, M. Terplytskyi // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 89—96: fig. 9. Refs.: 8 titles.

The paper includes the further development of mathematical models of dynamic characteristics of the push-pull DC amplifiers. Also methods of structural and functional organization of these amplifiers based on specialized current mirrors were considered that allow greatly expanding the bandwidth and improving performance without increasing the number of amplification cascades.

Making of filter elements according to the method of self-spreading high temperature synthesis for the regeneration of technical liquids and oils / L. Samchuk // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 97—100: fig. 2. Tables 1. Refs.: 8 titles.

On the basis of self-spreading high temperature synthesis the method of the radially-isostatical pressing an experience party of porous permeable cartridges of filters is produced. Productive tests showed that an offer porous filter material is competitive in technologies of regeneration of technical liquid and oils.

Determination of optimal conditions for high quality finishing process of sintered powder materials / T. Vozhko // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 101—105: fig. 1. Tables 1. Refs.: 1 titles.

The optimization of the structure and parameters of flat grinding operation of sintered powder materials is presented. Using the method of linear programming it was found out the interrelation of optimal cutting conditions in machining and quality parameters of processing a surface during grinding of sintered porous materials.

Devices for videoimpulse-immittance logical level convertors / M. Filyniuk, O. Lazariyev, L. Lishchynska // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 106—111: fig. 5. Refs.: 8 titles.

Requirements to devices for videoimpulse-immittance logical level convertors (VIC) are formulated. Analysis of circuit realization is conducted and experimental data of VIC parameters are shown. Three directions of VIC circuit realization technology are offered: on the base of passive components, on the base of active components with fixed q-point and on the base of active components with the loading q-point. It is shown that the offered VIC provides transformation of levels of videoimpulsive logic signals of to the levels of immittance logic with time-delay of 0, 2...15 ns in frequency range of 1...20 GHz.

The principle of constructing systems of the spatio-temporal filtering / I. Kravtsov, V. Kychak, Yu. Kravtsov // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 112—115: fig. 1. Tables 1. Refs.: 8 titles.

The principle of the constructing the equidistant four-element antenna array for spatial-temporal filter is considered, which uses properties of the symmetry weight coefficients and demonstrates the possibility of computing the weighting values and ensures that signals from the stream and the suppression of interfering signals coming from directions other than the specified one.

Increasing adequacy degree of forgetting knowledge process model / B. Mokin, O. Mokin // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 116—121: fig. 2. Refs.: 6 titles.

There had been shown that using of the curve of G. Ebbinghaus forgetting curve as a forgetting knowledge model sets only on the mean of the stochastic forgetting process and there had been increased the adequacy degree of this model by shifting forgetting curve to forgetting band divided into six regions, each of which have different levels of dynamic memory in subjects.

The typical students error during analysing Excel and the reasons of these errors / V. Klochko, V. Voiush // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 122—126: tables 1. Refs.: 3 titles.

The students errors which often arise during studying spreadsheets are considered in the paper. The errors are the incorrect record of functions or numbers in the exponential format and the inability to analyse the functional behaviour and the incorrect interpretation of arithmetical mean. The reason of error's appearance is the insufficient mathematical training of students or the incorrect analysis of the work situation. As the result, there is an incorrect selection of the mathematical solution. The recommendations of the error recovery are suggested.

The use of non-traditional assessment tools of learning outcomes of students in higher mathematics / I. Homiuk // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 127—132: fig. 1. Tables 1. Refs.: 5 titles.

The problem of control of knowledge of students is substantiated at higher school. The uses of interactive technologies are considered and analyzed in the context of realization of evaluation of educational results of students on higher mathematics.

The training of highly qualified personnel for the labor of the construction industry / V. Serdiuk, N. Beletska // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 133—139: fig. 5. Refs.: 8 titles.

The new approach to organization of the vocational training and attestation of personnel of building industry in the conditions of self-regulation is considered. Advantages of the use of module technology of the vocational training for preparation, in-plant training and professional retraining of personnel are shown in building industry by the use of its resource base.

The processing method of CTS subject preparation individual descriptions data / T. Troianovska // Вісник Вінницького політехнічного інституту. — 2013. — № 4. — P. 140—146: fig. 5. Refs.: 4 titles.

The majority of the modern systems of the computerized training of specialists do not enough take into account the features of work of subject of training with educational information. Such passivity of the systems from the point of view of collection, storage, treatment and subsequent use of additional information about activity of subject of training influences the quality of training of specialists. The method of data processing of research of individual descriptions of subject training is offered, that would give an opportunity to adapt the process of training information supply to every separately taken subject of CTS.