





ANNOTATIONS

**O. Bezvesilna, V. Tsiрук.** **Shock and vibration protection system of stabilization system of navigation complex of light armored vehicles.** *This paper proposes a new schematic diagram of shock and vibration protection (SSV), which differs from the known fact that helps reduce the amplitude of the current shock acceleration 9 times, dry friction damper has thus guarantee operational safety hirostabilizator navigation system preserving the desired accuracy. Retrieved refined mathematical model SSV that has more members (dry friction damper, the stiffness of the elastic convex plates, placing dampers and elastic convex plate) that account for the impact of parts for SSV Finishing and vibration protection*

**O. Bezvesilna, V. Tsiрук, A. Tkachuk.** **Coriolis vibratory gyroscope as the sensing element of the complex control system stabilization.** *The article deals with new Coriolis gyro (CVG) - Angular velocity (AV) stabilization system navigation system of modern light armored vehicles. CVG is different from traditional electromechanical gyroscopes high reliability and durability, as it contains no rotating parts, bandwidth and resistance to mechanical stress. These sensors have a wide scope, including - stabilization of the platform installed on their devices, measuring and control systems of moving objects of different classes, the inertial measurement unit to navihatsiyi. Z view of the results was carried out by simulation of the stabilizer with the introduction of AV-CVG in a vertical channel stabilizer, because the vertical channel operate most intense effects. As the simulation results, increasing the bandwidth results in improved noise immunity systems and ensures requirements for its hardness, because it reduces vibrations at a sufficiently high gain.*

**V. Bilan, M. Verkhola.** **Construction method for web feeding and web pulling systems digital models of roll sheeting machines.** *This article devoted to obtaining techniques to create discrete models of roll sheeting machines web feeding sections that fully conform to their continuous counterparts. The resulting models are useful for the synthesis of digital controllers, design, research and construction of microprocessor and computer systems stabilizing tension when exposed to various disturbances and process loads.*

**M. Verhola, I. Guk, U. Panovyk.** **Information technology of ink distribution analysis in the ink-printing systems of offset machines.** *This article describes the information technology used to research and analyze the axial distribution of ink in the ink-printing systems of offset machines. The aim of the work is to increase the accuracy of their adjusting and quality of the printed products. The inking-systems in offset printing-presses are quite complicated and can include up to four rubbing cylinders. A very important task is to determine the influence of each rubbing cylinder operation mode on ink-redistribution between adjacent zones, (in axial direction), and between an exit and entrance of the ink-system. It has a significant impact on accuracy of the previous ink-supply adjusting with the help of certain device. In addition, it influences on the quality of printed products and reduces the costs of ink and paper.*



break of kinematics connection of crank and coupler.

Complication of synthesis task consists of necessity to determinate such FBL geometrical parameters, that provides inviolability of kinematics connections of the mechanism and rocker's motion according to set LPM during all kinematic cycle working part. The set problem of determination of necessary geometrical parameters is solved by searching iteration method from the condition of concordance of crank and rocker speeds in FBL in the links "critical" position moment.

**L. Krestyanpol. The complex information system of protection packing.** The paper used information technology to develop an automated system to identify and protect the unit. The system includes a functional diagram of the process of identification and protection unit, which consists of four phases in which certain operations are performed.

**A. Lagoyda, G. Sementsov. Synthesis of the optimal control laws of centrifugal gas compressor units.** An algorithm of optimal control of a centrifugal supercharger pumping unit booster station underground gas storage. Detailed study of the application of the maximum principle for the optimization of system performance surge of automatic control.

**M. Podolsky, Yu. Kuznetsov, D. Dmitriev, V. Sidorov. Experimental research of dynamic parameters of support system of lathe in the processing of carving.** Been experimentally studied dynamic characteristics of support system of lathe in processing cylindrical parts, made the approbation of the mathematical model of the dynamics of support system and developed software, made the comparison of experimental results with theoretical prognosed.

**N. Sabat. Automated processing of geological and technological information about the process of well drilling.** It is discussed the questions of chart automated processing of mechanical logging that is carried out in geophysical researches of well using the means of geological and technological control. The examples of practical application of the developed method and software products are shown.

**L. Ravenets. Perfection of systems processing superfinishing rotation surfaces rings in technological complex of bearing production.** The most appropriate method of treatment, which increases the load carrying ability, and corrects the errors of the surface shape of the workpiece geometry in cross section, a superfinishing. Setting up the machine according to standard procedures do not take into account the phenomenon of technological heredity deviations of form and often does not provide precision machining that is required. Despite the widespread introduction of conical and modified work surfaces rollers are still not sufficiently justified theoretically profiling the leading circles of grinding machines and roller system superfinishing machines traverse. The study analyzed the existing methods and devices for superfinishing processing poverhnotey rotation in order to use a number of technical solutions used in the processing of roller rings.

**Sapon S.P., Fedorynenko D.Y., Boycko S.V. Accounting of temperature deformations in determining the function of radial gap in hydrostatic support of high-speed spindle knot.** *Substantiates the necessity and describes a method of accounting temperature deformations together with the deviations forms of support surfaces hydrostatic bearings in the analysis of the radial dynamic gap. Specific value of temperature deformations in the value of the static radial gap in hydrostatic supports of high-speed spindle knot with different gap and temperature are determined by the results of modeling. Effect of temperature on the value of harmonic amplitudes the cross-sectional profile of the supporting surfaces the spindle and hydrostatic bushing are defined. The dependence for describing a function of the radial dynamic gap in the hydrostatic support, in which together with the errors of forms considered displacement the supporting surfaces of hydrostatic bushing and the spindle, due to their thermal deformation are proposed. The recommendations for the definition of the components the radial dynamic gap in hydrostatic support are presented.*

**G. Sementsov, L. Feshanych. Analysis of laws distribution of random processes done by multiparameter merging of data.** *This article analyzes the distribution laws of random processes done by merging of main multiparameters characterizing the work of centrifugal supercharger compressor units, and by checking compliance outcome statement of the central limit theorem (Lyapunov formulation). The system of automatic control of compressor unit 9, being operated by compressor station underground gas storage "Bilche-Volytsya " has been analyzed. The examples of construction of the histogram of relative frequencies at the confluence of random processes were shown and the hypothesis of normal distribution according to Pearson criterion was checked. It was proved that the total random signal was obeyed to normal distribution law, corresponding to the Lyapunov theorem.*

**V. Skalksyy, Z. Nazarchuk, L. Dobrovolska, R. Yarema. Technological factors effect on hydrogen volume damage of reactor vessels.** *The acoustic emission methodology of volume damage estimation of bimetals which are used in manufacturing of reactor vessels and oil hydrocracking reactors is shown. The method applied for experimental measuring is theoretically grounded based on solution of dynamic three-dimensional problem for initiation of isolated mode I crack. The quantitative assessment of variation of acoustic emission measure of bimetals volume damage under hydrogen and others technological effects (chemical composition of austenite string, welding procedure, reactor cooling rate, welded joints occurrence, etc.) combined action is given.*

**V. Yaglinsky, S. Gutyrva, A. Obaidy, N. Felko, V. Belikov. Modeling of akseleration exposure crews on mobile machines.** *An original design of multi-axis simulator based hexapod drivers for mobile machines (MM), (such as BMP, amphibians, etc.), providing an extension application regimes. The mathematical models of control parameters of kinematics simulator simulating movement MM land with difficult terrain or water under pitching and pitching. Levels of exposure to akseleration MM driver when driving with high pitch angles.*