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### SUMMARIES

SYNTHESIS OF SPHERICAL FOUR-BAR HINGED MECHANISMS ON EXTREME POSITIONS OF OUTPUT LINK AND COEFFICIENT OF EFFICIENCY. **N. Davitashvili, V. Abaishvili.** “Problems of Mechanics”. Tbilisi, 2016, № 2(63), pp. 5-13, (Engl.).

Is stated the synthesis of spherical four-bar hinged mechanisms with taking into account of angles of transmission and revealing of conditions of existence of cranks. Are obtained minimal and maximal values of angle of transmission and are determined dimensions of links of mechanism, at that the deviations of angle of transmission from optimal value will be same in both sides. Is carried out the synthesis of mechanism on extreme positions of output link and coefficient of efficiency. 7 ill. Bibl. 20. Engl.; sum. in Russian.

IMPACT OF LATERAL MOVEMENT ON CAPACITY OF UNIT AT TRANSVERSAL OPERATION ON SLOPE. **R. Makharoblidze, Z. Makharoblidze, B. Basilashvili.** “Problems of Mechanics”. Tbilisi, 2016, № 2 (63), pp. 14-19-, (Engl.).

Theoretically is estimated the lateral movement of unit at transversal operation on slope that would be caused by lateral skid of tires as well as by slipping. Due the value of lateral movement are determined such operational characteristics of tractor unit, as coefficient of movement resistance, traction force utilization factor, velocity utilization factor, time utilization factor, coverage utilization factor, and so on. Are obtained design formulae for by hour and shift theoretical and actual efficiencies. 1 ill. Bibl. 4. Engl.; sum. in Russian.

RESEARCH OF INFLUENCE OF QUALIFICATION OF DRIVER ON EFFECTIVENESS OF VEHICLE. **O. Gelashvili, G. Tabatadze, M. Zurikashvili, T. Niauri, M. Koplataдзе.** “Problems of Mechanics”. Tbilisi, 2016, № 2 (63), pp. 20-23, (Engl.).

In the article are analyzed and determined the acting on fuel efficiency and ecological safety factors and is attended on qualification of driver and vehicle efficiency driving ways that provides improvement in efficiency of vehicles. Is justified that share of driver's qualification in total fuel saving makes up to 15-25% while organizational as well as technically the possibility of implementation of this potential is quite low yet. Bibl. 6. Engl.; sum. in Russian.

ON ANALYSIS OF PROCESS EFFICIENCY ON GANG-STYLE MACHINES AND MACHINE COMPLEXES AT REALIZATION CUTTING TOOLS PREVENTIVE

CHANGE PROCESS. **T. Mchedlishvili, V. Iobadze, M. Talakvadze, M. Kashbadze, Kh. Amkoladze** “Problems of Mechanics”. Tbilisi, 2016, № 2 (63), pp. 24-28, (Engl.).

In the modern mechanical engineering widespread are applied machines and machine complexes that implement processes of gang-style processing. Important are tasks to optimize production processes in relation to the indicators of cutting tools reliability, as well as mechanisms and devices of operating equipment. In this paper are considered problems associated with the construction of expressions of processing efficiency in interrelation with the technological parameters of process and preventive changing of cutting tools that represents the certain basis for the subsequent solution of optimization calculations problems. Bibl. 4. Engl.; sum. in Russian.

INVESTIGATION OF THE DIFFERENTIAL WITH AN UNSTEADY SELF-BLOCKING. **Z. Tsintsadze**. “Problems of Mechanics”. Tbilisi, 2016, № 2(63), pp. 29-34, (Engl.).

It has been established that during the movement of car, when engagement factor is uneven, the differential with the appropriate blocking is capable of developing more traction force than the symmetrical differential. In addition, blocking should be implemented only in case of the necessity and with an appropriate value. 3 ill. Bibl. 4. Engl.; sum. in Russian.

PROCESING OF STEEL-SMELTING AND FERROALLOY SLAGS WITH 0 -10 mm SIZE FRACTION. **V. Kldiashvili, T. Natriashvili, S. Mebonia**. “Problems of Mechanics”. Tbilisi, 2016, № 2(63), pp. 35-41, (Engl.).

A new technology for processing of steel-smelting slag with 0-10 mm size fraction, which allows to obtain a number of highly efficient products without briquetting.

With purpose of more complete extraction of metal from steel-smelting slags, the authors have taken into account the technological processes in the ore-heating electric furnaces, and on that basis, there has been proposed a single-phase furnace with hollow electrode which allows to remove of gases generated in the process of smelting. 1 ill. Bibl.10. Engl.; sum. in Russian.

PRINCIPLE OF FREQUENCY GRADIENTS AND ENERGY CONSERVATION LAWS FOR THE INTEGRATED FLUX AS A BASIS FOR SOLVING THE PROBLEM OF TURBULENCE. **A. Aptsiauri, G. Aptsiauri**. “Problems of Mechanics”. Tbilisi, 2016, № 2(63), pp. 42-47, (Engl.).

In the article is shown that the averaged equations of turbulent flows are not the result of integration of Navier-Stokes differential equation, but consequence of the fundamental principle of conservation for the averaged on time (or integrated) mass energy and momentum flows. Based on the fundamental law of conservation of material substance and principle of

frequency gradients are obtained additional equations that gives the possibility to solve the problem of turbulence. 2 ill. Bibl. 4. Engl.; sum. in Russian.

CLASSIFICATION OF FACTORS ACTING ON OPERATIONAL FUEL CONSUMPTION OF VEHICLES. **O. Gelashvili, M. Zurikashvili, G. Tabatadze, N. Tsilosani.** “Problems of Mechanics”. Tbilisi, 2016, № 2 (63), pp. 48-52, (Engl.).

In the article are considered laws of formation of operational fuel consumption and is stated their classification that has the theoretical as well as practical importance and their consideration provides effective functioning of transport firms. Bibl. 7. Engl.; sum. in Russian.

IMPROVEMENT OF TRANSPORT COMPANIES EFFICIENCY BY APPLICATION OF MANAGEMENT METHODS. **N. Tsilosani, O. Gelashvili.** “Problems of Mechanics”. Tbilisi, 2016, № 2 (63), pp. 53-57, (Engl.).

In the article is considered improvement in Georgia transport companied by application of management methods by fuel efficiency and their rational application. Developed in the article measures have large practical importance and their implementation provide effective functioning of transport companies. Bibl. 4. Engl.; sum. in Russian.