3(64), 2016
SUMMARIES

ANALYSIS OF THE SPHERICAL FIVE-BAR MECHANISMS WITH TWO DWELLS OF OUTPUT LINKS. **N. Davitashvili, O. Gelashvili. "**Problems of Mechanics". Tbilisi, 2016, № 3(64), pp. 5-20, (Engl.).

Research into spherical five-bar hinged mechanisms with two DOF, four revolute and one sliding kinematic pairs and slider-mobile guide (S-MG) mechanisms with dwells of the output link is given in the paper. Is revealed that spherical five-bar with four revolute and one sliding pair in the middle of slider stroke has two long dwells of output link, and spherical crank-rocker five-bar mechanisms have two dwells of the output link at the extreme positions. The obtained results of analysis of the spherical five-bar mechanism with two dwells of the output link represents the new scientific direction in spatial (spherical) five-bar mechanisms two DOF. 16 ill. Bibl. 19. Engl.; sum. in Russian.

AN ALGORITHM FOR CONSTRUCTING WORKPLACE ARRANGEMENTS PARALLEL STRUCTURES**. V. Glazunov, S. Demidov, I. Orlov, K. Shaluykhin. "**Problems of Mechanics". Tbilisi, 2016, № 3(64), pp. 21-26, (Engl)

Used approach to the calculation of the generalized coordinates from the known absolute position output level. It is established that the provisions of the inverse problem for the manipulator parallel structure with four connecting kinematic chains, as for many manipulative mechanisms of this class, has an analytical solution. 3 ill. Bibl. 11. Engl.; sum. in Russ.

OPTIMAL ENERGY SATURATION OF TRACTOR WITH TAKING INTO ACCOUNT MOUNTAINOUS CONDITIONS**. R. Makharoblidze, R. Makharoblidze, B. Basilashvili. "**Problems of Mechanics". Tbilisi, 2016, № 3(64), pp. 27-33, (Engl)

In the work the capability of unit is related with power on the hook of tractor, angle of slope inclination and characteristics of lateral movement of unit at transversal operation on slope. In accordance with maximal capability criteria of unit or maximal efficiency criteria is determined the optimal value of energy saturation as relation between engine power to the mass of tractor in the given range of operating speed. Bibl. 6. Engl.; sum. in Russ.

EFFICIENCY OF MODELING OF URBAN PASSENGER TRANSPORT SYSTEM. **O. Gelashvili, G. Tabatadze, M. Zurikashvili, M. Koplatadze. "**Problems of Mechanics". Tbilisi, 2016, № 3(64), pp. 35-39, (Engl)

In the article due variety of approaches and opinions on modeling of urban transportation system are set out requirements that ensure the maximum comfort and quality of passenger transportation. As result of analysis of urban passenger transport system in the article has been

developed the methodology of its improvement that is based on feasibility of application of mathematical and economic models. Bibl. 9. Engl.; sum. in Russian.

DETERMINATION OF THE FORCES OF SHOOK INTERACTION IN THE SYSTEM "PILLOWS OF ROLLS - BED" OF THE ROLLING MILL. **T. Natriashvili, S. Mebonia, G. Otarashvili.** "Problems of Mechanics". Tbilisi, 2016, № 3(64), pp. 41-47, (Engl).

In article the shock interaction of pillows of rolls and bed of a working cage of the rolling mill which takes place at metal capture by rolls is considered. When calculating forces of shock interaction as model of deformation linear power function, the expressing dependence of effort of blow on deformation is accepted. Formulas, satisfactory for engineering calculations, for determination of the maximum force of blow in process the above-stated details are received. 3 ill.Bibl. 8. Engl.; sum. In Russian.

PRINCIPLE OF CONSERVATION OF TIME SCALE FOR ONE-DIMENSIONAL FLOWS. **A. Aptsiauri, G. Aptsiauri. "**Problems of Mechanics". Tbilisi, 2016, № 3(63), pp. 49-53, (Engl.).

In the work by analysis of one-dimensional unsteady flows, based on the fundamental law of conservation with application of Fourier series is shown that in the presence of periodic, steady pulsations along the flow, the fundamental frequency as well as all higher frequencies remain constant and are changed only the amplitude of oscillations that is in full agreement with the results of analysis of more complex three-dimensional flows. Thus, is confirmed the validity of the principle of conservation of frequencies or time scale along the flow. 1 ill. Bibl. 1. Engl.; sum. in Russian.

DEFORMABILITY OF TWO-DIMENSIONAL MEDIUM WITH CUTS ON THE BASIS OF APPLICATION OF GENERALIZED FUNCTIONS. **G. Kipiani, B. Abesadze, N. Chachkhiani. "**Problems of Mechanics". Tbilisi, 2016, № 3(64), pp. 55-59, (Engl.).

With application of theory of generalized functions is stated the analysis of calculation on deformability of thin-walled structures having various violations of regularity. Is developed the methodology of calculation of plates reinforced by constantly or discreetly attached ribs in conditions of geometrical non-linearity. Bibl. 8. Engl.; sum. in Russian.