

№2(91), 2023

SUMMARIES

METHODICAL BASES OF ENSURING ENVIRONMENTAL SAFETY OF MOTOR TRANSPORT COMPANIES. **O. Gelashvili**. "Problems of Mechanics". Tbilisi, 2023, № 2(91), pp. 7-18, (Engl.).

It is known that 75-85% of environmental pollution in big cities is caused by exhaust gases from vehicles. The more motor fuel is used for transport, the higher is the degree of pollution, therefore the issues of increasing fuel economy and environmental friendliness are relevant and have great practical importance for all countries. The analysis of the environmental safety issues of motor transport companies reveal that there is no complex approach to the solution of these issues, and often these issues are discussed at the level of single vehicles or motor transport companies. The analysis of the methods of increasing environmental friendliness in transport companies shows that it is necessary to develop a methodology based on a complex approach, which ensures the improvement of environmental friendliness in the industry as a whole and the reduction of harmful effects on both people and the environment as a whole. 1 ill. Bibl. 8. Engl.; sum. in Russian.

DETERMINATION OF IMPACT FORCES IN RADIAL-FORGING MACHINE. **T. Natriashvili, S. Mebonia, Z. Sabashvili**. "Problems of Mechanics", Tbilisi, 2023, № 2(91), pp. 15-21, (Engl.).

The process of impact interaction in the deformation zone of a radial forging machine of the wedge-lever type are considered. The differential equations of the shock-oscillatory process that occurs during radial forging of an axisymmetric product are compiled, taking into account the plastic deformation of the metal. As a result of solving these equations, a formula for the impact force was obtained, taking into account the elastic-mass parameters of the parts of the radial forging machine, the speed of the levers with strikers, and the friction conditions in the deformation zone. 3 ill. Bibl. 14. Engl., sum. In Russian.

A MATHEMATICAL MODEL OF THE STIKY FRIABLE MATERIAL VIBRO-SEPARATION PROCESS ON THE BOTTOM WITH A NET AND EXPERIMENTAL RESEARCH INTO PENETRATION OF VIBRATIONS IN THE MATERIAL. **V. Zviadauri, T. Nadiradze, M. Chelidze**. "Problems of Mechanics", Tbilisi, 2023, № 2(91), pp. 23-31, (Engl.).

A mathematical model of the friable material vibro-separation process on the vibro-feeder bottom with a net, considering elastic characteristics of the net, is presented in the work. Mathematical modeling of the process is carried out and the results of solution are shown, when the vibrations transmitted from the vibro-feeder and elastic deformations of the net are acting on the material simultaneously. Penetration of vibrations in friable materials is studied on the vibratory test bench and vibratory machine and some results are given. 11 ill. Bibl. 7. Engl., sum. In Russian.

DYNAMIC CALCULATION OF BUILDING STRUCTURES USING THE MathCAD SOFTWARE SYSTEM. **B. Bandzeladze, Z. Chanturidze.** "Problems of Mechanics". Tbilisi, 2023, № 2(91), pp. 33-41, (Engl.).

The process of developing a mathematical model of an existing building structure using the MathCAD software package is considered. It is shown that a powerful graphic editor of the package allows us to view and analyze a complex model as a whole in separate simple parts with the corresponding geometric visual representation. Then, without any restrictions, one a resulting and qualitative analysis of the original mathematical model should be combined and conducted. 9 ill. Bibl.3.Engl.: sum.in Russian.