Bolyukh V.F., Nazarenko S.A., Rassoha M.O.

THE MULTI-FIELDS MODEL OF PULSED ELECTROMECHANICAL CONVERTER

Problem-solving questions emerging during the development of mathematical models of complex construction, in the availability of action electromagnetic fields of the different nature, are considered in article. For pulsed inductive electromechanical converter is offered multi-fields model, which is based on decision interconnected unsteady field problems of the electromagnetism, mechanic and thermal conductivity, taking into consideration for nonlinear parameters with use the method by final element and iterative algorithms. They experimental studies are organized, well concordant with features and parameters of the electromechanical converter.

Burdo O.G., Svetlichnyy P.I., Zykov A.V.

STRATEGY OF PERFECTION ENERGY TECHNOLOGIES IN THE CONDITIONS OF CRISIS

The situation related to the power crisis folded in a country is considered in work. Possible directions of perfection of existent methods of decision of problem are analyzed. Strategy of increase of power efficiency is offered. The priority ways of development and methods of the power monitoring of the systems of the thermal providing are selected.

Kudrov W.M., Chuchmar I.D., Vozgrin Yu.V., Kuzminsky V.A., Lazurko A.V.

STUDY OF WORKING PROCESSES IN THE HYDROSTATIC TRANSMISSION FOR THE COOLING SYSTEM VENTLLATORS OF THE PILOT POWER UNIT

The article has presented the study of dynamic processes in high and low pressure pipelines for hydrostatic transmission ventilators in order to improve their service performances.

Gryn G.I., Lavrenko A.A., Kozub S.N., Kozub P.A., Deyneka D.N., Bondarenko L.N.

ANALYSIS OF ENVIRONMENTAL SAFETY OF SPENT POWER CELLS

Analysis of information about toxicity of elements which constitute of nickel-metal-hydride battery and which used now as alternative for nickel-cadmium accumulator is done. The MPC of such substances for air and waters are presented, and comparative characteristics about toxicity of different groups of elements and their substances is done. Conclusion about necessity of complex approach to resolve ecological problem of utilization of all type of used source of power is done.

Качан Ю.Г., Николенко А.В., Кузнецов В.В.

ОЦЕНКА АДЕКВАТНОСТИ МАТЕМАТИЧЕСКОЙ МОДЕЛИ АСИНХРОННОГО ДВИГАТЕЛЯ В УСЛОВИЯХ НЕКАЧЕСТВЕННОГО ПИТАНИЯ

In the article is given estimation's adequacy of mathematical model of asynchronous engine, which consuming unquality electric power is based on result of industrial experiment. The middle quadratic absolute and relative errors of prognosis are expected.

Klimov V.F., Zaryanov W.A, Chuchmar I.D., Folunin S.A., Bober A.V., Podvalnaya I.I., Shipulin A.A.

METHODS FOR IMPROVING COOLING SYSTEM EFFICIENCY OF THE UPGRADED INFANTRY FIGHTING VEHICLE BMP-2

The method for improving cooling system efficiency of the upgraded infantry fighting vehicle BMP-2 resulting in changes of ejector and heat-exchanger performances on the basis of calculation and model study has been proposed.

Kovtonyuk I.B., Anipko O.B.

REQUIRED CONTROL OF AIRCRAFT TAKING INTO ACCOUNT A DEVIATION TRAJECTORY OF FLIGHT FROM SETTING

Offered approach to determination of required control of LA, which takes into account deviation of trajectory of flight of LA from setting. A required control is considered for the task of intercept of air purpose which moves.

Колбасов О.М.

ОСОБЛИВОСТІ СИСТЕМИ ОХОЛОДЖЕННЯ ВЕНТИЛЯЦІЙНОГО ТА ЕЖЕКЦІЙНОГО ТИПУ

У статті викладені основні напрямки модернізації об'єктів броньованої техніки та показані переваги використання систем ежекційного типу для двигунів з турбонаддувом або компресорами з високою ступінню підвищення тиску.

Nekrasov P.O.

MOLECULAR DISTILLATION PROCESS OPTIMIZATION APPLIED TO DIACYLGLYCEROL FATS PRODUCTION

Using response surface methodology the optimal parameters of molecular distillation process were identified with the aim of diacylglycerol content enhancement in medioprophylactic and functional fats. It was ascertained that the maximum diacylglycerol content (84 % w/w) occurred when at residual pressure 0,01 Pa the distillation was carried out for 2,65 h at 145 ºC.

Огородников П.И., Светлицкий В.М., Малярчук Б.М.

ПРОЕКТИРОВАНИЕ НАДДОЛОТНОГО АМОРТИЗАТОРА ДЛЯ БУРИЛЬНОЙ КОЛОННЫ, КАК БАГАТОРЕЗОНАНСНОЙ КОНСТРУКЦИИ

Рассмотрены вопросы, связанные с проектированием виброзащитных устройств для случаев, когда учитывается многорезонансность КНБК – конструкция низа бурильной колонны и колонны бурильных труб – КБТ. Анализируются возможности улучшения работы буровых амортизаторов с упругим элементом который является резиновым блоком. Предложены критические оценки работоспособности в частотном диапазоне, охватывающем резонансные частоты КНБК и КБТ. Эта нижняя граница рассматривается как функция параметров амортизатора и динамической характеристикой бурильной колонны. Показано, что основываясь на повышении границы эффективности, можно построить четкий и простой метод усовершенствования амортизатора по сравнению с существующими.

Огородников П.И., Светлицкий В.М.

ПОСТРОЕНИЕ ДИНАМИЧЕСКОЙ МОДЕЛИ БУРИЛЬНОЙ КОЛОННЫ С УЧЕТОМ ДЕЙСТВИЯ ШИРОКОПОЛОСНЫХ ВИБРАЦИЙ, КОТОРАЯ ГЕНЕРИРУЕТ ДОЛОТО ПРИ БУРЕНИИ

На основании анализа случайных процессов построена динамическая модель бурильной колонны с учетом воздействия широкополосных вибраций.

Редько А.О., Бугай В.С.

ТЕХНІКО-ЕКОНОМІЧНІ ПОКАЗНИКИ ГЕОТЕРМАЛЬНИХ ЦИРКУЛЯЦІЙНИХ СИСТЕМ ТЕПЛОПОСТАЧАННЯ З ГОРИЗОНТАЛЬНИМИ І ВЕРТИКАЛЬНИМИ СВЕРДЛОВИНАМИ

In this article technical and economic indicators of geothermal circulating systems (GCS) heat supplies with vertical and horizontal wells, their comparison. Considered GCS with horizontal well allows to improve technical and economic indicators compared with GCS with vertical well.

Boiko A.V., Usatyi A.P., Gevnovatchenko I.V.

IMPROVEMENT OF THE GENERALIZED DESIGN PROCEDURE OF ADJUSTING STAGES EFFICIENCY FOR PROBLEMS OF ANALYSIS AND OPTIMAL DESIGN

In article the improved variant of the generalized design procedure of the adjusting stage efficiency which allows considering in addition influence of some basic design data of the stage on its efficiency is given. New dependence of efficiency is received by processing of results of the planned numerical experiment with use of more perfect model of axial turbine flow path calculation. Use of the received dependence allows passing to a new class of problems – to optimal design of nozzle steam distribution systems, including taking into account change of operation modes.

Рассоха О.М., Черкашина Г.М.

ВПЛИВ АРМУЮЧОГО НАПОВНЮВАЧА НА ВЛАСТИВОСТІ ФУРАНО-ЕПОКСИДНИХ КОМПОЗИЦІЙНИХ МАТЕРІАЛІВ

В роботі проаналізовано вплив армуючого наповнювача (скловолокна) на деякі властивості фураноз-епоксидних композиційних материалів