

TABLE OF CONTENTS

GENERAL PROBLEMS OF ELECTROMECHANICS

Kovsharov A.N. (JSC «VNIEM Corporation»)

SELECTING CONTROL SYSTEM FOR HIGH-SPEED PERMANENT MAGNETS SYNCHRONOUS MOTOR.....3

A system of vector control by means of high-speed permanent magnets synchronous motor for power grid is compared with a turbo compressor. Regulator parameters calculations are described. Based on obtained results the control system was selected for further system implementation without rate-of-turn sensor rotor.

Key words: permanent magnet synchronous motor, vector control systems, system with direct measurement moment, system based on current source, control system with current controllers.

SPACE ELECTROMECHANICS. SPACECRAFT

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FLIGHT TESTING RESULTS OF VERNIER PROPULSION SYSTEM WITH SPD-50 ENGINE

ON BOARD OF «KANOPUS-V» TYPE SC.....7

Flight testing results and Vernier Propulsion System (VPS) operation based on stationary plasmajet SPD-50 of «Kanopus-V» type small spacecraft (SC) are described. A peculiarity of engine ignition of this sort in conditions of the space – launch by a command for gas distribution module valve opening was analyzed. This required to correct a VPS control algorithm. Peculiarities of interface of engine unit with SC power supply system that required to detail a cyclogram of engine unit operation at orbit correction is described herein.

Key words: small spacecraft, Vernier Propulsion System, stationary plasmajet, power supply system, flight operation.

PRODUCTS AND EQUIPMENT TEST PROCEDURES

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STRUCTURAL LOADING PARAMETRIC MODEL AND ALGORITHM

OF ITS APPLICATION AT ESTIMATING MAXIMAL TENSIONS.....15

An algorithm for determination of the worst combinations of external forces affecting the construction due to which maximal inner forces and tensions appear in it, At availability of large quantity of simulation cases the algorithm enables significantly to shorten time for calculation. With respect to end-element calculations the algorithm is performed in the form of user-defined function in MSC Patran-Nastran environment.

The material is exposed with simple examples, each calculation of which concerning the proposed algorithm and direct enumeration of simulation cases is compared.

The application of the proposed approach is actual at analyzing spacecraft stress at different life-cycle stages, for example, at placing into orbit.

Key words: combination of loads, finite elements method, PCL.

ELECTROMECHANICS AND SOCIOECONOMIC DEVELOPMENT OF THE COUNTRY

Gorchenko L.D., Evseev I.V., Mishin A.A. (SRF Military academy n.a. Peter the Great)

SIMULATING CONFLICT SITUATIONS BETWEEN GLIDING AIRCRAFT

AND INTERCEPT GUIDED MISSILE.....23

A method of formation of anti-interceptor manoeuvres by gliding aircrafts is considered, a mathematical model of gliding aircrafts movement and intercept missiles in conflict situations are developed, an efficiency of gliding aircrafts manoeuvres characteristics is analyzed. Results of the work can be used for operative determination of certain types of manoeuvres with the aim to increase a probability of gliders to survive while in flight. The mathematical tools technique presented in the article enables to calculate different types of conflict situations.

Key words: hypersonic aircraft, intercept missile, conflict situation simulating, anti-interceptor manoeuvre, flight vehicle manoeuvring, manoeuvre efficiency, trajectory markers, trajectory optimal configuration.

Radionov N.V., Parshin A.V. (Military space academy n.a. A.F. Mozhaysky)

DESIGNING FUZZY ADAPTIVE CONTROL SYSTEM.....31

Theoretical issues of justification and practical algorithms for designing fuzzy adaptive control systems are considered. New methods for mating input information and expected levels of coherence of logical rules of output signal with data base concerning input and output of the system are proposed. The methods are based on fuzzy integral calculations via vague measures.

Key words: control system, adaptation, fuzzy number, possibility, utility, fuzzy integral, fuzzy inference rule.

PAGES OF NATIONAL SPACE METEOROLOGY HISTORY

Makridenko L.A., Volkov S.N., Gorbunov A.V., Khodnenko V.P. (JSC «VNIEM Corporation»)

R.S. Salikhov (JSC «NIEM»)

STATE METEOROLOGICAL SPACE SYSTEM «METEOR-2».....43

Efficiency of the state meteorological space system «Meteor -2» is represented and principles of its creation are exposed. The assignment and main characteristics are shown, prospects of its development are presented.

Key words: spacecraft, meteorological space system, remote sensing, Vernier Propulsion System, orbit, booster, launching complex, ground-based complex of reception, processing and information dissemination.