

Contents

Vol. 54, No. 3, 2011

A simultaneous English language translation of this journal is available from Allerton Press, Inc.
Distributed worldwide by Springer. *Russian Aeronautics (Iz. VUZ)*, ISSN 1068-7998.

Structural Mechanics and Strength of Flight Vehicles

- A Lower Bound Estimate of the Critical Load for Helicopter Main Rotor Composite Blade According to the Limit Equilibrium Theory. The Basic Steps of an Algorithm
A. V. Gorelov and I. N. Sidorov 233
- Adjustment of Elasticity Characteristics of a Composite Elastic Hub of Helicopter Main Rotor for a Range of Operational Temperature Conditions
V. A. Kostin, S. A. Mikhailov, E. I. Nikolaev, and A. I. Gerasimov 242
- Modeling of Landing of a Helicopter with Skid Undercarriage with Regard for the Second Landing Impact
S. A. Mikhailov, L. V. Korotkov, S. A. Alimov, and D. V. Nedel'ko 247
-

Flight Dynamics and Control of Flight Vehicles

- Stabilization of Turbojet Engine Rotor Revolutions at Sliding Mode Taking into Account Uncertain Disturbances and Measurement Errors
A. S. Meshchanov and S. Yu. Sevryugin 254
-

Aircraft and Rocket Engine Design and Development

- Water Feed Influence on Nitric Oxide Emission under Oxidation of Near-Stoichiometric Air-Methane Mixtures
M. D. Garipov and R. Yu. Sakulin 264
- Aeroelastic Deformation of a Solid-Propellant Rocket Engine during Supercharging
V. Yu. Petrov and V. Ya. Modorskii 272
-

Aircraft and Rocket Engine Theory

- Influence of the Gas-Distributing Grid Structural Features on the Flow Parameters in the Liquid-Propellant Rocket Engine with Producer Gas Afterburning
A. N. Sabirzyanov and P. V. Luk'yanov 276
-

Aircraft Production Technology

- Structural Regularities of Stress-Strain State Variations in a Hardened Surface of Turbine Blade Roots at Service Conditions
N. A. Protasova 285
-

TECHNICAL NOTES

Structural Mechanics and Strength of Flight Vehicles

- Material Deformation Curve Approximation in Strength and Stability Analysis
L. M. Savel'ev 292
-

Flight Dynamics and Control of Flight Vehicles

On the Issue of Dividing the Aerodynamic Derivative Systems for the Aircraft Flight Dynamics Problems

E. A. Chasovnikov

298

Aero- and Gas-Dynamics of Flight Vehicles and Their Engines

Motion of a Spherical Particle in the Poiseuille Flow

N. I. Klyuev and A. I. Saifutdinova

303

Flow about a Jet Source with a Deflector

R. F. Mardanov

308

Aircraft and Rocket Engine Design and Development

Variations of Static Loading in Single-Crystal Turbine Blades of Aircraft Gas Turbine Engines in the Course of Prolonged Service

N. P. Velikanova and A. S. Kiselev

314

On the Analysis of Electric Arc Process Stability in Plasma Systems of Ignition with Allowance for GTE Combustion Chamber Parameters

F. A. Gizatullin and R. M. Salikhov

318

Heat Transfer at Various Methods of Thermal Protection in the Systems of Power-Driven Gas Turbine Plants (GTP)

A. V. Gimbitskii, S. G. Dezider'ev, and A. G. Karimova

322
