

ANALYSIS OF LOADING CHARACTERISTICS OF “SOYUZ-ST” CARRIER ROCKET MODULES IN PLACES OF THEIR SUPPORT DURING SEA TRANSPORTATION

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The paper describes sea transportation of carrier rocket modules. A mathematical model is proposed which describes the dependence of loads in places of carrier rocket module support on vertical shifts of the vessel. The main characteristics of sea choppiness are given, regularities describing vertical shifts of a point of the vessel during sea choppiness are defined as a random process.

Carrier rockets, transportation, rigidity, sea choppiness, overloading, spectral density, dispersion.

References

1. Raibman, N. S. Building models of production process /N. S. Raibman, V. M. Tchadeyev. – Moscow: Energiya, 1975 – 376 pp.
2. Kuropatkin, P. V. Theory of automatic control. / P. V. Kuropatkin – Moscow: Vysshaya shkola, 1973 – 528 pp.
3. Abakumov, A. M. Identification of mechanical treatment processes on metal-cutting machine-tools / Teaching aid / A. M. Abakumov, V. P. Kurgan, V. N. Mikhelkevitch. – Samara Polytechnical Institute, 1991. – 118 pp.
4. Remez, Yu. V. Ship rolling and pitching / Yu. V. Remez. – Leningrad: Sudostroyeniye, 1983 – 328 pp.
5. Semyonov-Tyan-Shansky, V. V. Ship rolling and pitching / V. V. Semyonov-Tyan-Shansky, S. N. Blagoveshchensky, A. N. Kholodilin. – Leningrad: Sudostroyeniye, 1969 – 400 pp.
6. Vagushchenko, L. L. Shipborne automatic systems of seaworthiness control / L. L. Vagushchenko, A. L. Vagushchenko, S. I. Zaitchko. – Odessa: Fenix, 2005 – 274 pp.

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