



Chief Editor:

MAKRIDENKO L. A., Deputy General
Director – General Designer, D. Sc. (Tech.)

Editorial board:

Gecha V. Ia., D. Sc. (Tech.)
(Deputy Chief Editor),
Gorbunov A. V., Ph. D. (Tech.),
Gadzhiev E. V., Ph. D. (Tech.),
Duyshenaliev T. B., D. Sc. of Physics
and Mathematics (Kyrgyz Republic),
Zakharenko A. B., D. Sc. (Tech.),
Zolotoy S. A., Ph. D. (Tech.)
(Republic of Belarus),
Iskhakov A. S., Ph. D. (Tech.),
Kazantsev S. G., D. Sc. (Tech.),
Karachun N. D., D. Sc. (Tech.),
Kobelkov N. O., D. Sc. of Military Science,
Ph. D. (Tech.),
Minaev I. V., D. Sc. (Tech.),
Nurguzhin M. R., D. Sc. (Tech.)
(Republic of Kazakhstan),
Pinchuk A. V., Ph. D. of Military Science,
Sarychev A. P., D. Sc. (Tech.),
Sidnyaev N. I., D. Sc. (Tech.),
Tyutnev A. P., D. Sc. of Physics
and Mathematics, Ph. D. of Chemical Sciences
Fedotov A. Yu., D. Sc. (Tech.),
Chunikhina O. A.
(Editorial board Executive secretary)

Executive editor:

Gecha V. Ia., D. Sc. (Tech.)

Subscription index:

Union catalogue
«Pressa Rossii»

87648

Editorial office address:

JC «VNIEM Corporation», 30 Volnaia st., Moscow, Russian
Federation. Postcode: 105187.
Tel.: (495) 365-30-63.
E-mail: vniem@vniem.ru; redactori@mcc.vniem.ru.
http://jurnal.vniem.ru.

Signed for print 28.12.2022. Format: 60×84 1/8.
Conventional printed sheet 6,74. Circulation: 150 copies.

Printed at «SAM-POLIGRAFIST» LLC,
Protopopovskii pereulok, Moscow. Tel.: (495) 545-37-10.
www.onebook.ru.

The journal is registered by the Federal Service for Supervision
of Communications, Information Technology and Mass Media,
Registration Certificate ПИ No. 77-74183 dated 30.11.2018.

The journal is recommended by the Ministry of education and
science of Russia for publication of scientific works reflecting
the main scientific content of candidate and doctoral dissertations.

Full or partial use of the information published in the journal is
allowed only after coordination with the editorial department,
with indication of the source.

© JC «VNIEM Corporation», 2022

CONTENTS

**SPACE ELECTROMECHANICS. SPACE CRAFTS.
NEAR-EARTH SPACE RESEARCH**

<i>D. A. Bondarenko, K. V. Vavilin, I. I. Zadiriev, E. A. Kralkina, S. Iu. Marinin, A. A. Khodov</i> Prospect of development of annular ion engines.....	3
<i>I. P. Bezrodnykh, E. I. Morozova, A. A. Petrukovich, M. V. Kozhukhov</i> Formation of solar activity in the process of dynamo mechanism development.....	12
<i>S. V. Litivonov, V. O. Skripachev</i> Estimation of forecasting errors parameters of regular ionosphere layers.....	26
<i>A. A. Simonyan, S. N. Zamuruyev</i> Research and comparative analysis of modern methods for determining the angular coordinates of a radio source.....	34
<i>A. A. Bondar, K. V. Avdeev</i> Features of noise-resistant decoding in mobile communication systems.....	40
<i>V. S. Losev, A. I. Kametkov, A. M. Fertyuk</i> Radomes for transmitting phased array antennas of long-range radars.....	46
<i>O. V. Semyonova, S. N. Zamuruev</i> Modeling of a multi-position radar system with a non-equidistant distribution of transceiver radars.....	52