**ABSTRACTS**

### ВОПРОСЫ РАДИОЭЛЕКТРОНИКИ

### серия

### ТЕХНИКА ТЕЛЕВИДЕНИЯ

### 2018 вып. 2

**I. A. Rosselevich. The centenary of the birth. PP. 3.**

**I. A. Rosselevich through the eyes of colleagues. PP. 4–15.**

*Zelenova V. V.* **Move up.** PP. 16–35. Reviewed the works of I. A. Rosslewich and TV all-USSR Institute.

*Lykova E. M.* **The centenary of the birth of I. A. Rosselevich. PP. 36–46.** Describes the main milestones of life and activity of I. A. Rosselewich.

*Solomenko E*. **I accept the decision** («Leningradskaya pravda», March 29, 1981, № 75 (26117) **PP. 47–53.**

*Onufrey A. Y., Razumov A. V., Chernogubov А. V., Vaganov A. A.* **The sub-stantiation of requirements to technical characteristics of the board optical-electronic equipment of small spacecraft remote sensing earth. PP. 54–60.** The article analyzes the features of optoelectronic equipment used in existing spacecraft for solving problems of remote sensing of the Earth. The requirements for optical-electronic equipment for monitoring the Earth's surface on a time scale close to the real one are grounded. **Keywords:** spacecraft, remote sensing of the Earth, forest fires, optoelectronic equipment

*Logunov S. V., Kachuro А. В. Chernogubov А. V., Kolesnik D. Yu.* **Joint processing and analysis of incorporated information on space objects for solving the tasks of recognition. PP. 61–69.** The method of processing the results of spectrophotometric measurements of geostationary satellites is considered to determine their design features on the basis of the analysis of two-color diagrams. **Keywords**: spectrophotometry, geostationary satellite, stellar magnitude, color index, terrestrial optical means.

*Logunov S. V., Oleinikov M. I* **Peculiarities of photometric observationsof artificial earth satellites by ground optical means. PP. 70–77.** A mathematical apparatus is presented that allows to connect the brilliance of artificial satellites of the Earth, obtained as a result of photometric observations, and their dimensions. The main problematic issues associated with obtaining reliable results of photometric observations are discussed. Key words: photometric observations, artificial Earth satellite, ground optical instrument, photometric catalog of stars.

*Ivanov V. G., Kamenev A. A., Romanov V. A.* **Modern state and prospects of GeSi/Ge nanolayer quantum well and quantum dot focal plane arrays on the base of silicon**. **PP. 78–92.** Basic advantages and problems of development of high photoresponse monolithic infra-red focal plane arrays (FPA’s) in 2-to 12-μm spectral region on the base of usual silicon technology with GeSi/Ge nanolayer quantum well and quantum dot are considered. Examples of successful solving of lattice mismatch problem between Si and Ge and improvement of FPA characteristics are presented. Some key FPA technologies are determined. **Keywords:** an infra-red range, focal plane arrays, quantum well and quantum dot.

*Dvornikov S. V., Pshenichnikov A. V., Muravtsov А. A., Litkevich G. U., Burykin D. A., Lizenko K. S.* **Proposals for frequency movement of symbols in the standards of video transmission. PP. 93–98.** An approach to the choice of the depth of the interleaving of modulation symbols in the frequency space is proposed. The concept of the depth of cyclic shift for OFDM transmission symbols is defined. The calculation expressions are obtained. The simulation results for the TETRA standard are presented. **Key words**: cyclic shift, frequency interleaving, video transmission, OFDM technologies, TETRA standard protocols.

*Dvornikov S. V., Fokin G. A., Al-odhari A. H., Fedorenko I. V.* **Investigation of the dependence of the value of the geometric factor of reduction of accuracy from the topology of reception points. PP. 99–104.** The estimation of the influence of the reception points topology on the parameter of the geometric factor of accuracy decrease is carried out in the work. The structure of the optimal location of reception points is justified. It is proved that in this case the geometric factor lies in the range from 0.81 to 5.89. **Keywords**: geometric factor of accuracy decrease, difference-ranging method, topology of reception points location, source of radio emission.

*Dvornikov S. V.*, *Vlasenko V. I., Muravtsov А. A., Dvornikov S. S.*, *Kotov A. A.* **Proposals for application formula Vvedensky for calculating the diffusions of radioline transmission video. PP. 105–111.** A simplified approach to the calculation of attenuations on the paths of radio links using the Vvedensky formula is proposed. The area of its application is determined. The main assumptions and limitations are presented. The results of mathematical modeling. **Keywords**: signal attenuation, Vvedensky's formula, video transmission on the radio channel.

*Dzitoev A. M., Lapovok Y. V., Khankov S. I.* **Components of thermoaber-rations provisions of the image reception mirror of the telescope. PP. 112–117.** The method of calculation of a thermoaberration of provision of the image of a mirror caused by absorption of a part of power of the radiation falling on a working surface is stated. At the same time the thermoaberration is presented in the form of superposition two a component – one is caused by a mirror deflection, and another his temperature level. Such approach provides the maximum presentation of the analysis of the factors forming a thermoaberration. Four standard materials of mirrors are compared on heat stability. **Keywords:** a reception mirror of the telescope, a thermoaberration of provision of the image, the thermoinduced focus shift, heat stability of optical system.

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