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Key words: code chain synthesis, phase shift keyed radio signal, radiolocation, space debris, near-Earth space.

Combined performance criterion for phase-shift keyed radio signals synthesis taking into account the requirements specified in the resolution and accuracy of radar system positioning of near-Earth space monitoring is proven. It is shown that a given approach allows us to form a zone of zero autocorrelation up to 3% relative to repetition period of probe signal at the level of lateral emissions being less than -26 dB ..... 7

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Key words: objects tracking, predictor angular coordinates.

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Key words: base fragments of images, diagnosing of plants diseases, features preferences, features correlations, leaves diagnostic features.

The statistical approach to solve the problem of feature extraction in determining plants phytocondition by leaves images is considered. On the basis of this approach the model for forming diagnostic features of images is proposed. Different statistical characteristics are calculated for each fragment of the given image. To determine applicability of the proposed model experiments on solving the problem of recognizing cotton plant phytocondition by leaves images are conducted..... 21

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Key words: MEMS inertial sensors, gyroscope, accelerometer, Euler-Krylov's angles, quaternions, alpha-beta Kalman filter.

The article considers the problem of determining the orientation of angular position of a rotating moving object with MEMS inertial sensors (accelerometers and gyroscopes) installed on them.

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Key words: sensor based on SAW delay lines, electronic circuits, matching networks.

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Key words: autocorrelation classifier, probability of classification, multicriterial synthesis, terrestrial radio navigation system, inter symbol code sequence, narrowband interference.

An algorithm for synthesis of inter symbol code sequences (ISCS) ensemble for satellite and terrestrial radio navigation systems (SRNS / TRNS) with a low probability of classifying types of modulation has been proved. The effectiveness of proposed algorithm has been tested on the example of BOC-signals, and rejection of narrowband interference (NI) was 4.49 dB for 4 MHz band (NI bandwidth 200 kHz) and 3.23 dB for 8 MHz bandwidth (NI bandwidth 400 kHz). In addition, the likelihood of entanglement synthesized ensemble navigation signals (NS) with BOC-signals is close to unity in classification system of radio monitoring of opposing side, and this effect has been achieved by simple change of ISCS .....45

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Key words: Digital synthesis, direct digital synthesizer, phase-locked loop frequency control, quadrature modulator.

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Key words: psychoemotional tension, electrocardiosignal, indices of heart rate variability, nonlinear integral transforms, window of analysis, extra systole, coefficient of variation.

A comparison of different methods to determine human-operator psychoemotional tension parameters is conducted. The way to determine values of operator psycho-emotional state indicators in time domain based on electrocardiosignal nonlinear integral transforms is described. To increase reliability of samples time parameters determination it is offered to generate threshold level dynamically, given the magnitude of the coefficient of variation in the signal analysis window. It is shown that the method considered allows to increase the accuracy of analysis 1.33-times and immunity 2-times compared to conventional methods ..... 53

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Key words: bundle wiring, capacity, cable ducts.

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Key words: systems of decision-making support, fuzzy logic, medical expert systems, semantic network, model of patient condition.

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Key words: natural language processing, automatic translation, converting of cardinal numbers.

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Key words: Boolean equations, cryptography, pattern recognition.

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Key words: multiservice infocommunication system, infocommunication services, multiprotocol transport network, heterogeneous fiber-optic baseband transmission paths.

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Key words: disconnection of magnetically operated contacts, electric attraction, autoelectronic emission, movement of contact parts.

A mathematical model of process of current rupture in a chain with active loading reed switch with operating coil is presented. The model solves numerically equations of magnetic and electric circuits with nonlinear elements (permalloy magnetization curve and autoelectronic emission), and the equations of motion of the contact details under the influence of elastic, magnetic and electric forces with a time of 0.1  $\mu$ s in the range of 1 ms. The basic results of the simulation (for example, the unit MKA-14108): an explanation of wavy recession of coil current after reed switch disconnection, confirmation of repeated closures of contacts through electrical attraction, "delaying" of discharge inductance coil with repeated closures, confirmation of the possibility of contacts erosion due to large (up to 0,1 A) field-emission current. Results of modeling correspond to the experiment .....86

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Key words: oxide coverings, cold cathode, helium-neon laser, electric field distribution.

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Key words: spectroscopy of low-frequency noise, diode structure, power spectral density, quantum well, deep level transient spectroscopy.

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Key words: quadrupole transit time mass spectrometer, transition regions, two-electrode quadrupole cell with longitudinal uniform electric field, ions input-output system.

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Key words: combined algorithm, hyperstability criterion, dynamic equalizer, L-dissipativity.

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Key words: management of the project, modernization of industrial enterprise, analysis of sensitivity of the project, scenary planning, optimum control of the project.

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