

L.A. Korshunov, A.A. Maksimenko, V.A. Borodin, A.G. Yakunin, L.I. Suchkova, A.V. Ishkov
Innovational informational-exhibition project in field of devises technologies and radio electronics.....5

In the article the innovational informational - exhibition project «conference-exhibition-reference journal», for the first time implemented in 2011 in the Altay State Technical University in frames XII of International scientific and technical conference «Measuring, control, normalization - 2011 » circumscribed at support of the Altay regional branch of Fund of assistance to development of small shapes of firms in scientific and technical sphere and the Altay scientific - educational complex.

Keywords: information – measuring systems, radio electronics, information support, an exhibition, innovations.

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M.I. Ledovskoj

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Keywords: inertial navigation, Matlab-Simulink, algorithm, modelling.

A.L. Zhiznyakov, D.G. Privezentsev, A.A. Fomin

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Keywords: image processing, fractal signs of images, fractal model of images, recognition and classification of images.

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Keywords: electrostatic field, three - coordinate measurements method, mathematical model, intensity

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Keywords: automation, optimization, designing, konstruktorsko-technological preparation of manufacture, technological process.

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Keywords: worm slots mills, automated designing.

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Keywords: region, informational-communication system, model, information society, management elements.

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Keywords: temperature, pyrometer, spectrum, infrared radiation, thermal control.

M.N. Osipov, M.A. Popov, T.A. Popova

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Keywords: optical measurement, interferometry, Michelson's interferometer, digital signal processing, vibration.

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Keywords: resonance systems, Q-factor, dynamic measurements, the characteristic points, AFC.

A.V. Kosykh, S. A. Zavyalov, K. V. Murasov

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Keywords: a temperature sensor, an operational amplifier, the bipolar transistor.

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Keywords: transient, instant values, a bipolar electric chain, constant time.

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Keywords: generalized uncertainty center method, the method of ellipsoids.

PART II. COMPONENTS AND METHODS FOR INFORMATION - MEASURING SYSTEMS

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Keywords: current supply, pulse-width modulation, adaptation, digital prediction

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Keywords: optical control method, multielement photodetector, discrete Fourier transform, spectrum outflow, image processing.

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Keywords: oscillator, coupled oscillations, the active element, self-organization, feedback, interaction.

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Keywords: composite materials, destruction, poison distribution, electromagnetic radiation, radiation spectra, frequency, microcracks.

V.N. Popok

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Keywords: differential scanning calorimetry, differential-thermal analysis, thermogravimetric analysis, thermomechanical analysis, cyclic tests, ammonium nitrate, polymorphic transitions.

S.F. Dmitriev, A.V. Ishkov, D.N. Ljashenko

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Keywords: measuring hardware-software complexes, a high-frequency wireless signaling, eddy currents method, metrological performances.

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Keywords: dielectric constant, moisture, open resonator, SHF measurement, the percolation threshold.

A.A. Zhukov, V.A. Meshcherykov, G.A. Redkin

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Keywords: permittivity, propagation constant, multi-layer circular cut-off waveguide.

P.V. Gulyaev, E.Yu. Shelkovnikov, A.V. Tyurikov,

M.R. Gafarov, S.I. Lipanov

The asynchronous mode of an inertial piezoelectric drive.....86

Abstract. The operating features of a inertial piezoelectric drive in the asynchronous mode, distinguishable by short-term character of synchronization in kinematic couple, are observed in the paper. The equivalent circuit of the inertial piezoelectric drive is described. Results of theoretical and practical tests of the drive in an asynchronous regime, its advantages and disadvantages are demonstrated.

Keywords: inertial piezoelectric drive, asynchronous mode, kinematic couple, nanosize displacement.

R.V. Barsukov, D.V. Genne, E.V. Ilchenko

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Annotation – The article is devoted to development of measuring instrument of parameters of ultrasonic vibrating system, created to work in ultrasonic unit, which has different technological function. Block diagram of designed device and measurement procedure are described. In the article results of measurements carried out by developed device are given.

Keywords: quality factor, resonance, measurement, ultrasound.

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Keywords: mass flow measuring, mass flow measuring device, capacitance-type transducer, dielectric polarization, grain.

V.N. Khmelev, R.V. Barsukov, D.V. Genne

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Keywords: ultrasound, ultrasonic generators, acoustic loading, control.

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T.M. Chernikova, V.V. Ivanov, E.A. Mikhaylova

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Keywords: electromagnetic radiation, spectra of radiation, impulses, size of the crack, spectral density, square of the spectral density.

V.I. Bukaty, P.I. Nesteruk

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Keywords: cluster, water, optical narrow angles method, light diffusion

V.I. Suslyev, V.A. Jhuravlev, E.Yu. Korovin

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Keywords: dielectric constant, electrical characteristics, hydrogen-cooking, conductivity, chemical analysis, ion exchange filters.

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Keywords: wire, cable product, spark testing, certification of electrospark flaw detector.

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Conception and development of monitoring and diagnostic system of electric lines with a tree topology based on "Intellectual PLC modem".....114

The article describes the conception and development of monitoring and diagnostic system of electric distribution network with complex topology based on "intellectual PLC modem". As a method of diagnostic was selected location probing method with the implementation of averaging, differential analysis and digital filtering. Monitoring is carried out by using the protocol stack of the physical and data link layer that uses narrow-band FSK modulation.

Keywords: distribution networks, location probing, locator, PLC modem, FSK modulation.

M.R. Gafarov, E.Yu. Shelkovnikov, P.V. Gulyaev, A.V. Tyurikov, S.R. Kiznertsev

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Keywords: scanning tunneling microscope, nanoparticles, dispersion control, image segmentation, surface curvature

A.G. Ovcharenko, S.L. Rasko

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Keywords: estimation of fire danger, static electricity discharges minimal, minimal energy of ignition, powder systems, continuous materials.

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Keywords: photographs, microwave techniques, autodyne sensors, resistivity, lifetime, measurement error.

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Keywords: drill pipe, welding lock, concentricity, control system, mutual inductance converter.

V.A. Juzova, E.M. Nazarova, V.V. Gavrilov

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Keywords: control of a semi-conductor material, electrochemical processing of semiconductors, porous silicon, porous silicon films, a microelectronic chemical sensor control.

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Keywords: echo-pulse method, the automated measurements, elasticity, monocrystals.

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Keywords: the experimental stand, natural tests, an electronic payment, the thermoelectric module, a non-uniform heat-conducting path.

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Keywords: microstrip resonator, conductivity, dielectric permeability, ecology, water quality control.

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Keywords: decomposition, entropy, indicator of informative.

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Keywords: correlation analysis, expert evaluations, opinions coordination, survival time forecasting, characteristics importance.

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Keywords: control system, wood media, nanosecond short pulse radiolocation.

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Keywords: crown-root tooth fracture, treatment, microcirculation, laser-Doppler flowmetry.

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Keywords: focalelectroencephalogram of animal, stimulating actions, microcontroller, bimorph.

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Keywords: geothermal power engineering, geothermal water, salt depositing, calcium carbonate, nondestructive salt deposition inspection, temperature gradient.

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Keywords: navigation system, satellite navigation, inertial navigation, kalman filter.

V.G. Efimov, Yu. N. Lozhkova, A.G. Mitin

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Keywords: ultrasonic signal, the wavelet transform, adaptive system.

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Keywords: automated information measuring system, fiberglass rod, strength, deformation, coefficient of elasticity, lateral deflection.

A.S. Bessonov

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Keywords: automated system, visual control, optical detail, software, programming environment LabVIEW, functions IMAQ Vision.

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Keywords: photovoltaic modules, tracking systems, efficiency.

P.V. Gulyaev, N.I. Osipov, M.R. Gafarov, E.Yu. Shelkovnikov, S.R. Kiznertsev

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Keywords: electrochemical tunneling microscope, rapprochement of the tip and the sample, automation, tunnel current, faraday current.

S.A. Kalabanov, A.V. Karpov, R.S. Kirillov, R.I. Shagiev

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stack of data communication is developed. Created a working model of the system and conducted field tests.

Keywords: Smart Grid, PLC modem, frequency shift keying, differential current protection.

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Keywords: tending machine, LED, microcontroller system, software.

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Keywords: reception path, transmit path, phase, phase detector, a reference signal, the synthesizer reference frequency.

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Keywords: accounting balance, active, passive, forecasting, dynamic matrix model.

S.A. Panfilov, V.M. Kalikanov, J.A. Fomin, O.C. Panfilova

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Keywords: business processes, graph theory, results, transfer function, the coefficient of efficiency

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Key words: analysis of threats to information security, risk assessment information security.

V.K. Trofimov, V.I. Agoulnik, I.I. Rezvan

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Considered word-coding of messages, generated by the well-known stationary source. The effective coding

techniques are proposed, transform the words of various lengths in the words of identical length, or the words of varying length in words of varying lengths.

Keywords: entropy, coding, redundancy, capacity, source.

E.N. Pivkin

The forecasting algorithm of assessments of the security level of information objects based on fuzzy time series.....229

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Keywords: fuzzy time series, forecasting, the assessment of security.