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Key words: target, detection, tracking, data fusion, distance measurement.

The aerial target detection and tracking algorithm using video and range data fusion is synthesized in proposed observing conditions. A simplified approach based on the results of theoretical research is suggested. The experiments are carried out on the database containing both natural and artificially generated video sequences. Possible applications include airport security, air traffic control and monitoring, special-purpose uses 3

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Key words: hyperspectral image, clusterization algorithms ensemble, clusters labels vector, consolidated similarity matrix of the objects clusters labels, spectral factorization.

The problem of hyperspectral images segmentation by means of clusterization algorithms ensemble is considered. Approach to development of clusterization algorithms ensemble, based on the maximizing of mutual information, contained in private clusters labels vectors, received with the application of clusterization algorithms under uncertainty conditions, by means of formation of consolidated similarity matrix of objects clusters labels, taking into account different importance degree of private clusters labels vectors used, is offered. The algorithm of graph splitting, corresponding to the similarity matrix of objects clusters labels, based on the application of spectral factorization and fuzzy c-means algorithm, is offered 9

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Key words: correlation dimension, optimal estimation, maximum likelihood estimates, estimate bias, scale range truncation, Cramer-Rao inequalion.

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Key words: image processing, noise, filter, restoration, industry, machine vision.

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Key words: particle filtering, recursive Bayes formula, successive Monte-Carlo method, detection characteristics.

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Key words: acoustic noise, classification, parametrization, wavelets.

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Key words: wavelet transformations, multiresolution wavelet analysis, definition of distortion degree of speech sounds, digital processing of speech, acoustic properties of speech sounds, recognition of speech, recognition of phonems, training of deaf people to pronounce sounds of speech.

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Key words: speech recognition, hidden Markov model, hybrid model, speech signal.

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Key words: software project process, assessment process, processes maturity level, the model of a process as an indistinct graph, algorithm.

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Key words: parallel algorithms, sorting, multi-core processors.

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Key words: potential gradient, DFT, function with a kink, EOS.

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Key words: atomic force microscopy, porous silicon, Raman scattering, photoluminescence, photovoltaic cell.

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Key words: quadrupole mass spectrometer, monopole analyzer, mass filter, fringing field, coefficients of ions transmission.

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Key words: self-similarity, quasicrystal.

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Key words: double-gap cavity, SHF self-excited oscillator, generator-gain klystron, self-excitation regime.

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Key words: reliability of controlling systems, synthesis of reliable schemes from unreliable components.

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Key words: natural language processing, numbers, Internet, visitor statistics analyzing.

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Key words: modernization, increased bandwidth, optical fiber, DWDM technology.

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Key words: low bit-rate speech coding, noise protection, speech quality.

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