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Key words: error-correcting coding, iterative decoding, symbolic ( $q$ -ary) multithreshold decoders, symbolic self-orthogonal codes, threshold element, decoding complexity.

Symbolic multithreshold decoders ( $q$ MTD) for symbolic self orthogonal codes ( $q$ SOC) are described. The complexity of symbolical threshold element ( $q$ TE) is analyzed. The last one is the most complex part of  $q$ MTD. Several methods for  $q$ TE operation speed improvement the best of which providing algorithmic complexity  $O(d)$ , where  $d$  is the code distance are offered. As a result  $q$ MTD operation speed is increased 2 or even more times for standard code parameters in comparison with usual  $q$ TE algorithm.....22

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Key words: clutter, noise, recursive procedure, clutter whitening, digital signal processing.

We optimize the recursive procedure for calculating the coefficients of filter for suppression of noise and clutter in the presence of change in uncorrelated components power. We show that the use of modified recursive algorithm either allows a gain of 1.1...50 in the accuracy of coefficients of inverse clutter and noise correlation matrix, or provides 1.3...2-fold decrease in the number of steps to obtain a solution in comparison with known recursive algorithm .....27

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Key words: mammogram, pathology, random Markov model, the Haralik's matrix, textural features, identification of tumors.

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Key words: databases, relational, design, verification, subject domain, masking of data.

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Key words: optimal control problem, gradient method search, piecewise constant control.

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Key words: multiprocessor system, fault- tolerance, diagnostic graph, duplication check.

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Key words: IAIS methodology of software development, industrial automation.

The article summarizes 20-year author's experience, coupled with the development and implementation of software of Integrated Automated Information System (IAIS) of engineering enterprise. Readers are invited to IAIS methodology for creating software designed for automation in a single information space (SIS) of enterprise technical training business processes (BP) and operational management of custom production of science-intensive products. The described methodology, embodied in the form of IAIS Stalker PLM v7.x software, was experimentally tested on ten machine-building enterprises of Russia .....78

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Key words: associative rules, model graph differentiation, data mining.

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Key words: time series, almost complete strictly binary tree, forecasting model, modified clonal selection algorithm.

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Key words: crowdsourcing, management model of employers and educational institutions interaction, educational institutions.

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Key words: thyatron, inductive energy storage, current interruption, switching losses, temperature of shell unit, filament voltage of hydrogen generator.

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Key words: adaptive signal processing, pre-processing, optimization of spatial structures.

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Key words: soldered joint, reliability, contact pad, microsection, protective mask, thermal cycle.

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