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ISBN ISSN
Copies No.
Date-.....-.....

Master Degree Studies **Electronics** study programme Master's Thesis

Title **Image Segmentation Using Parallel Genetic Algorithm**

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Thesis language:
Lithuanian

Annotation

Image Segmentation Using Parallel Genetic Algorithm. Final work for electronics engineering master degree. Vilnius Gediminas Technical University. Vilnius, 2011, 55 pages without annexes, 22 figures, 1 table, 34 ref., 2 annexes.

Aim of this work is to investigate application of genetic algorithm for optimization of filter sequence parameters for integrated circuit image segmentation.

In this paper optimization algorithm of parameters of filter sequence for image segmentation is created and implemented. Created algorithm can check several collections of filter parameters in parallel. Investigated genetically optimized image segmentation quality increase in comparison with non-optimized.

With genetic optimization module, image segmentation quality increased, 6 % for integrated circuit active region images and 5 % for metal track layer images in comparison with non-optimized filter sequence.

Keywords

parallel genetic algorithm, optimization, image segmentation, integrated circuit