ABSTRACT

Graduate work (thesis for specialist degree): 80 pages, 25 illustrations, 5 tables, 2 annexes, 14 sources.

This diploma is dedicated to the problem of digital images compression and the research of artificial neural networks application within this context.

In this diploma was designed the new lossy image compression algorithm which uses Hopfield networks and based on Block Truncation Coding algorithm. Proposed algorithm has advantages in image quality and error metric values if compared to BTC, while preserving the same compression ratio. In this paper the results of work of the implemented algorithm are presented. The comparative analysis of the results is fulfilled.

IMAGE COMPRESSION, ARTIFICIAL NEURAL NETWORKS, COMPRESSION NEURAL NETWORKS, HOPFIELD NETWORK, PERCEPTION, LOSSY DATA COMPRESSION. BLOCK TRUNCATION CODING. IMAGE QUANTIZATION.