INFORMATION QUANTITIES ATTACHED
TO A GENERALIZED HUFFMAN CODING

BY

VALERIU MUNTEANU and DANIELA TĂRNICERIU

Abstract. For the case in which the code alphabet consists of M letters, we consider a discrete source whose probability distribution assures the minimum average codeword length, by diversifying only one node in the tree graph on each level and grouping equally likely messages in each node. In the case of generalized Huffman encoding, we derive the information quantities. Then these results are specialized for two cases.

Key Words: Generalized Huffman Coding; Average Codeword Length; Entropy.

ABOUT THE MAXIMUM EFFICIENCY OF ACTIVE
POWER'S TRANSMISSION THROUGH A GENERAL,
LINEAR, NON-AUTONOMOUS AND PASSIVE
FOUR-POLE, IN HARMONIC STEADY-STATE

BY

HUGO ROSMAN

Abstract. Two properties concerning the active power's transmission maximum efficiency through a linear, non-autonomous and passive general four-pole, in harmonic steady-state are established.

Key Words: General Four-Pole; Harmonic Steady-State; Maximum Efficiency.

MULTILEVEL HUFFMAN CODE FOR
LARGE INFORMATIONAL SOURCES

BY

LUMINIŢA SCRIPCARIU and PETRUŢ DUMA

Abstract. Compression is an essential technique used to increase the efficiency of any communication system, to reduce the transmitted data volume or the necessary space for data recording on different support [1]. Huffman encoding algorithm is used for lossless compression for discrete stationary informational sources. Usually it is applied as a binary algorithm based on a tree-diagram. But for large informational sources it is really difficult to design the code using an extended tree-algorithm. Therefore we propose a simplified mode to apply Huffman code with more than two branches from each node of the tree-diagram, encoded on a higher number of bits. The obtained code, called multilevel Huffman code, works faster than the binary one, with very good performances of the compression process. Some numerical cases are presented to exemplify this proceeding.

Key Words: Compression; Huffman Code; Multilevel Code.