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THE ESTIMATION OF THE VOLTAGE LEVEL IN PUBLIC ELECTRIC ENERGY REPARTITION SYSTEMS USING ARTIFICIAL NEURAL NETWORKS

BY

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Abstract. Knowing the quality of the Artificial Neural Networks (ANN) as “universal approximants”, the paper suggests the usage of this form of artificial intelligence in the estimation of the voltage level in high voltage nodes (the high voltage bars from the 110 kV step-down transformers) from the public electric energy repartition systems. To increase the accuracy of the voltage levels estimation provided by the ANN architecture, it is essential to complete and suitable assemble the learning data sets, to effectuate some transformations that simplify the learning of the ANN process. On these lines, using a number of minimal input data, an ANN that passed a training step can estimate the state parameters of an electric network, especially the nodal voltage provided at the output of the ANN. This information is obtained in a short time, practically in real time.

Key words: voltage level; Artificial Neural Networks; repartition networks.