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A GUI FOR NUMERICAL ANALYSIS OF SHORT AND MEDIUM-LENGTH ENERGY TRANSMISSION LINES

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Abstract
Electrical energy transmission lines transfer electrical energy requested by individuals, groups and countries for various reasons. The factors such as type, structure, length etc. of the lines cause change in voltage, current and power of the transmitted electrical energy. The loss, the phase difference between voltage and current and the efficiency of the line can be evaluated and analyzed by using the line parameters, receiving end voltage, the load power and type variables.

In this study, a graphical user interface has been designed to analyses and calculates the sending end parameters, the line efficiency and sketch the phasor diagram when choosing the line model as short and medium-length energy transmission lines which are in the curriculum of departments of electrical, electrical-electronics and energy systems engineering, parameters of the selected line and the load. This interface has been designed and implemented by means of the Microsoft Visual Studio Community software and C# programming language and it has been suggested to the related students as an education material.

Keywords: Transmission lines, GUI, analysis.