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Collection of Solved Examples in Theoretical Electrical Engineering for Students of Mechanical Engineering

Single-phase circuits

2021

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FOREWORD

The publication is intended for students of Faculty of Mechanical Engineering of Slovak University of Technology in Bratislava, ERASMUS students, for the internationalization of education and science in Slovakia, for academic mobility, within the Central European exchange program for university studies CEEPUS and for general public. The publication complements the theoretical knowledge from lectures, deepens and practically shows the knowledge gained in lectures but also by studying the solution of practical tasks that are in line with the focus on the new accreditation program, for students giving comprehensive instructions for solving single-phase circuits. The publication consists of theoretical introduction and solved examples with circuit schemes and the solution of phasor diagrams. The publication presents typical tasks given to students of civil engineering in exams from the former Department of Electrical Engineering, founded in 1962. The publication is, among other things, a tribute to the founder of the Department of Electrical Engineering, Assoc. prof. Eng. Ivan Puzjak, PhD. on the occasion of his undead 92 birthday.

It is our kind duty to thank all those who have helped us with their experience and advice in preparation, and we thank our opponents for their valuable comments. At the same time, we thank the KEGA project for their support.

We believe that the publication will help listeners and general public to cope with the issue of single-phase currents and will be a good aid in the study.

In Bratislava, July 2021

Authors

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INTRODUCTION

The task and goal of this collection of solved examples from theoretical electrical engineering for engineers is to explain to students selected states of theoretical electrical engineering, specifically single-phase circuits, and to develop the ability to apply solutions to theoretical electrical engineering and to be a guide to solving these problems. The collection of solved examples is intended not only for students of the basic bachelor's study, but also for application in subjects in master's study, or in doctoral study.

Bratislava 2021 Authors