



# YOURS 2020

## ABSTRACT PROCEEDINGS

**YOUng ResearcherS Conference 2020**


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**Ministry of Education, Science and Technological Development**

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**Faculty of Mechanical Engineering, University of Belgrade**



# YOURS 2020

## YOUng ResearcherS Conference 2020

YOURS 2020 supports young researchers and their results in its broadest sense by highlighting the presentation of new trends and research and promoting innovative practices that advance academic achievements.

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## METHOD FOR ACQUISITION AND ANALYSIS OF OPERATING PARAMETERS OF A SUPERCAPACITOR ELECTRIC BUS

Miloš Maljković, Branko Miličić, Milena Žunjić, Ivan Blagojević

University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia

**Summary:** Reducing the air pollution is one of the main reasons for increased usage of electric buses in city public transport around the world. As a result, reducing the energy consumption of electric buses is becoming increasingly important. One of the most effective ways to reduce energy consumption, and therefore increase vehicle autonomy, is proper driver education. Based on the conducted analysis, it can be seen that the most of researches deal with the estimation of the energy consumption in electric vehicles with the help of mathematical models and simulations, while, on the other side, majority of testing was conducted in laboratory conditions, on chassis dynamometers. This paper presents the method for acquisition and analysis of operating parameters of the electric bus that uses a supercapacitor as an energy source. This method was used during the testing of electric bus in real operating conditions, and on a test track where different driving cycles were performed. Data acquisition was conducted by using the existing CAN bus data and some additional sensors. By analysing the collected data, it is possible to determine the impact of different driving styles on the efficiency of the electric bus and, based on that, to define the recommended driving style. Also, the collected data can be used for determination of the energy consumed/recuperated during different driving regimes.

**Keywords:** electric buses, energy efficiency, energy consumption



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