

ENERGY SAVING AND VOLTAGE STABILISATION IN URBAN ELECTRIFIED PUBLIC TRANSPORT OF BELGRADE – ANALYSIS OF SIMULATION RESULTS

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Abstract: The power consumption of a tram is characterized by distinct peaks combined with a low average value. Using an on-board energy storage, the overhead line peak power and energy consumption can be reduced. The storage device introduces a degree of freedom for control of the power flow. To incorporate the freedom an energy management is required. The design of the energy management can be seen as a multi-objective optimization problem with the objectives “minimize line peak power” and “minimize energy consumption”. As common to most multiobjective optimization problems it is not possible to minimize both objectives at the same time.

This paper describes new on board energy storage systems applied in the urban electrified public transport in Belgrade (R. Serbia)

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