Urban rail energy storage control system simulation

Simulation results show that the BDL can effectively improve the utilization rate of regenerative braking energy and raise local traction network voltage by scheduling the braking ...

With the rapid development of urban rail transit in China, the problems of increasing operating energy consumption and large voltage fluctuations of the traction network have become ...

Model of a Composite Energy Storage System for Urban Rail Trains Liang Jin1,*, Qinghui Meng1 and Shuang Liang2 ... The NSGA-II algorithm calls the simulation model of compo-site power ...

With the continuous development of urban rail transit and the increasing demand for energy, photovoltaic energy storage systems play an important role in urban rail transit. This article ...

Control Strategy of Flywheel Energy Storage Arrays in Urban Rail Transit Yong Wang1,JinLi2(B), Gang Zhang2,3, Qiyang Xu4, and Dawei Song5 1 Standards and Metrology Institute, China ...

With the rapid development of urban rail transit, installing multiple sets of ground energy storage devices on a line can help reduce train operation energy consumption and solve the problem ...

In order to analyze the energy flow characteristics of urban rail transit, this paper builds a simulation model of urban rail power supply system including energy storage device. The ...

In this paper, a power allocation strategy based on optimal temperature tracking is proposed for the contactless urban rail hybrid energy storage system. First, the maximum power is limited ...

This paper presents the simulation analysis method adaptive to the traction power system based on the circuit theory and CAD. The method can not only provide analytical data for the ...

control I. INTRODUCTION In urban rail transit applications, the supercapacitor energy storage system (ESS) is the main energy recovery device, which plays an important role in stabilizing ...

To further improve the simulation calculation ability of urban rail traction systems during the peak operation period and provide an accurate and reliable simulation tool for the subsequent train schedule and energy storage ...

The proposed hybrid energy storage system and control strategy can not only ensure that the voltage of the DC traction network fluctuates within the required range but also prolong the ...

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In order to reduce the peak power of traction substation as much as possible and make better use of the configu-ration capacity of battery energy storage system (BESS) in ...

Fuzzy Logic Control for Ground Energy Storage System in Urban Rail Transit Yuyan Liu, Student Member, IEEE, Zhongping Yang, Member, ... fuzzy logic control, energy saving. ...

Energy management is an important link in the effective functioning of hybrid energy storage systems (HESS) within urban rail trains. This factor significantly impacts the ...

To further improve the simulation calculation ability of urban rail traction systems during the peak operation period and provide an accurate and reliable simulation tool ...

The simulation and experiments results show that the RBEFS is able to feed RBE back into the ac grid effectively and the power quality of its output current satisfies the ...

DOI: 10.1109/IFEEA60725.2023.10429537 Corpus ID: 267702810; Optimization Control of Urban Rail Ground Supercapacitor Energy Storage System @article{Wang2023OptimizationCO, ...

Braking energy in Electric traction system of electric trains is significant because of trains" frequent accelerating, braking process, so braking energy recovery of urban rail ...

Zhu et al. [14] proposed a decentralized cooperative control of multiple energy storage systems in the urban railway to optimize the power distribution in the system. The ...

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