Energy storage power control for electric buses

Electric bus rapid transit (EBRT) is an effective solution for traffic congestion and environmental pollution, but it has some shortcomings such as short life span of batteries and low energy ...

Existing charging control methods of solar-powered electric vehicles may not be applicable for this problem. To address this knowledge gap, this study proposed a mixed ...

This paper proposes a novel use of superconducting magnetic energy storage (SMES) hybridized with the battery into the electric bus (EB) with the benefit of extending ...

A bus incorporating a natural gas engine with an electric drive train and energy storage the potential to offer large reductions in emissions and fuel consumption for urban

The framework optimizes electric bus and battery storage operations to minimize costs and emissions with the consideration of on-site solar generation, hourly marginal grid ...

In particular, plug-in hybrid electric bus (PHEB) yields longer mileage compared with EVs [8, 9]. In order to achieve lower emissions and a higher economy for electrified ...

Abstract:This paper focuses on Hybrid Energy Storage Systems (HESS), consisting of a combination of batteries and Electric Double Layer Capacitors (EDLC), for electric urban ...

Abstract Bus fleet electrification is crucial in reducing urban mobility carbon emissions, but it increases charging demand on the power grid. This study focuses on a novel ...

Electric buses are usually designed with various energy management features to overcome the limited cruising range problem. This paper reveals the impact of different ...

Yinlong Energy is a world leading Energy Storage Systems (ESS) company. We have the most advanced battery technology, and we manufacture Electric Buses, Coaches, Vans & Electric ...

This paper aims at studying the energy management of the dual-source electric bus. Based on the characteristics of the power demand and the energy storage system of the ...

Combining with a battery to form a composite power supply can effectively make up for the defects of a single energy storage device and extend the service life of the battery. In this ...

Energy storage power control for electric buses

Fuel cell hybrid electric buses (FCHEBs) employing hydrogen fuel cells as the main power source and supercapacitors as the energy buffer could be a feasible electrified transportation technology.

Electric buses are introduced toward achieving carbon neutrality by 2050, and there is a movement to utilize their storage batteries. On the other hand, the electric power ...

An Energy Management Framework with Two-Stage Power Allocation Strategies for Electric-Hydrogen Energy Storage Systems Conference Paper Oct 2023 Yuzhen Tang ...

The purpose is to provide a well-structured comprehensive review on these energy forecasting and electric bus charging scheduling for engineers, researchers, investors, ...

To address the power distribution problem that occurs in hybrid energy storage systems (HESSs) in electric vehicles, a fuzzy control ...

In recent years, aiming to reduce the metropolitan air pollution caused by fossil fuel-powered vehicles, the electrification of transportation, such as electric vehicles (EVs) and electric buses ...

Currently, the charging energy of electric buses (EBs) primarily relies on the power grid (PG), and the production of the electricity for the power gr...

The development of electrified vehicles is a promising step toward energy savings, emissions reduction, environmental protection, and more sustainable economic ...

Approach to Hybrid Energy Storage Systems Dimensioning for Urban Electric Buses Regarding Efficiency and Battery Aging Jorge Nájera 1,* ID, Pablo Moreno-Torres 2, Marcos Lafoz 3 ID, ...

This paper proposes a novel use of superconducting magnetic energy storage (SMES) hybridized with the battery into the electric bus (EB) with the benefit of extending battery ...

Additionally, during braking, capacitors can capture kinetic energy, converting it into electrical energy to be used again, significantly ...

This study demonstrates the significant improvements of electrical bus performance through the integration of thermal energy storage with battery electric buses.

For hybrid buses equipped with hybrid energy storage systems, it is crucial to thoroughly evaluate and analyze the potential of different hybrid ...

Energy management strategy (EMS) is crucial for the actual performance of fuel cell hybrid electric buses

(FCHEB) in complex traffic environments. However, conventional ...

Loaded with ever more renewables, the grid will need to store a whole lot of energy. Enter: a new kind of magic school bus--one that can both ...

The adoption of Battery Electric Buses (BEBs) in electric public transit systems presents a significant opportunity for advancing sustainable transportation. This study ...

To address the power distribution problem that occurs in hybrid energy storage systems (HESSs) in electric vehicles, a fuzzy control distribution method is proposed in this ...

In this study, we conducted a comprehensive analysis and comparison with typical control methods regarding the energy storage element output power, battery state of ...

The potential of reducing fuel consumption, harmful emission and cost benefit for plug-in electric hybrid buses depended largely on the power management strategy for ...

Abstract Fuel cell hybrid electric buses (FCHEBs) employing hydrogen fuel cells as the main power source and supercapacitors as the energy buffer could be a feasible ...

Abstract As a clean and renewable resource, solar energy has demonstrated its potential to alleviate the energy vulnerability and grid strain for electric bus systems. In this ...