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Can a virtual battery model be used for a base station?

Grounded in the spatiotemporal traits of chemical energy storage and thermal energy storage,a virtual battery model for base stations is establishedand the scheduling potential of battery clusters in multiple scenarios is explored.

Can small base stations conserve grid energy in hybrid-energy heterogeneous cellular networks?

Abstract: Dense deployment of small base stations (SBSs) within the coverage of macro base station (MBS) has been spotlighted as a promising solutionto conserve grid energy in hybrid-energy heterogeneous cellular networks (HCNs),which caters to the rapidly increasing demand of mobile user (MUs).

What is a small-cell base station (SBS) model?

Reference proposes a small-cell base stations (SBS) model with a dynamic sleep mechanismfor small base stations to address the challenges of maintaining SBS service quality and reducing SBS energy consumption during passenger traffic fluctuations.

Can a power grid model reduce the power consumption of base stations?

The analysis results demonstrate that the proposed model can effectively reduce the power consumption of base stationswhile mitigating the fluctuation of the power grid load.

We compute the transmission power and location of SBS and MSBS based on energy efficiency (EE), combining their strengths to tackle the challenge. This approach ...

To address this challenge, the present study develops a comprehensive mathematical modeling framework for bio-hybrid base stations powered by synthetic biology, ...

Finally, to get the energy consumption from the small cell BSs, the optimization of expected power consumption and expected delay is presented. The numerical results displays ...

Feb 22, 2024 . In this work, various energy sources are combined to form hybrid energy sources, which are designed based on the load of the residential building.

To reduce the demand for energy supply from the electric grid, a hybrid small cell base stations deployment (H-SBSD) strategy is considered, in which the on-grid SBSs are ...

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Finally, to get the energy consumption from the small cell BSs, the optimization of expected power consumption and expected delay is presented. The numerical results displays the impact of ...

Grounded in the spatiotemporal traits of chemical energy storage and thermal energy storage, a virtual battery model for base ...

In this paper, an energy efficient joint user association and BS on-off scheme for an HCN having diverse energy source(s) is proposed, which aims at utilizing the harvested energy efficiently in ...

In this article, we propose a joint user association and SBSs configuration scheme for maximizing energy efficiency (EE) in hybrid-energy HCNs.

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