

In this work, we investigate the feasibilities and challenges of energy-communication-transportation hub (ECT-Hub) design from a base-station-centric view and propose methods to tackle the challenges ...

Abstract: Energy efficiency (EE) metrics are important tools to support evaluation and management of communication networks, and are of key interest in the development of the ...

Our study introduces a communications and power coordination planning (CPCP) model that encompasses both distributed energy resources and base stations to improve communication ...

To further explore the energy-saving potential of 5 G base stations, this paper proposes an energy-saving operation model for 5 G base stations that incorporates communication caching and ...

Energy storage systems allow base stations to store energy during periods of low demand and release it during high-demand periods. This helps reduce power consumption and optimize costs.

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This chapter aims at providing a survey on the Base Stations functions and architectures, their energy consumption at component level, their possible improvements and the major problems ...

We develop the multi-step Q-learning of the RL algorithm to optimize base station sleeping strategies. Simulation results are provided to show the process and effectiveness of the proposed...

In today's 5G era, the energy efficiency (EE) of cellular base stations is crucial for sustainable communication. Recognizing this, Mobile Network Operators are actively prioritizing EE for both ...

Therefore, in response to the impact of communication load rate on the load of 5G base stations, this paper proposes a base station energy storage auxiliary power grid peak shaving method based on ...

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