

Sophia Telecom 5G Base Station AI Energy Saving Project





Overview

How AI based energy saving can help BS Energy Saving?

In response to the requirement of an intelligent and self-adaptive energy saving solution, AI and big data technology are also introduced to BS energy saving for improving the efficiency and reducing the manpower required. 7.2. AI based energy saving for 5G base stations Nowadays the 5G network deployment is on the fast track around the world.

What is the ITU-T Technical Report on 5G base station?

This document contains Version 1.0 of the ITU-T Technical Report on “Smart Energy Saving of 5G Base Station: Based on AI and other emerging technologies to forecast and optimize the management of 5G wireless network energy consumption” approved at the ITU-T Study Group 5 meeting held online, 20th May, 2021. 3.1.

What is the energy consumption of a 5G network?

The energy consumption of 5G networks is one of the pressing concerns in green communications. Recent research is focused towards energy saving techniques of base stations (BSs). BSs are one of the most power consuming elements of a 5G network. It is important to model their energy consumption for analyzing overall energy efficiency of a network.

What is the energy-saving technology of base stations?

This technical report focuses on energy-saving technology of base stations. Some energy saving technologies since 4G era will be explained in details, while artificial intelligence and big data technology will be introduced in response to the requirement of an intelligent and self-adaptive energy saving solution.



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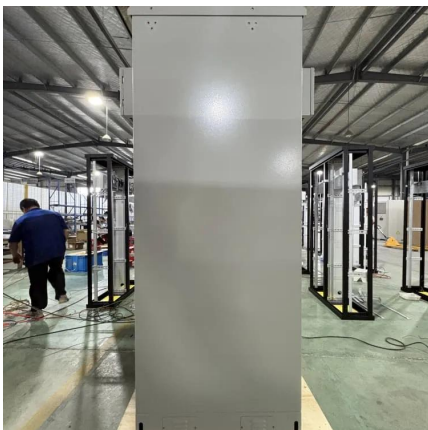


[Application of AI technology 5G base station](#)

Dec 9, 2020 · The intelligent energy-saving of base station using AI technology should be divided into different types of problems, study the characteristics of telecommunication analysis and ...

AI-based energy consumption modeling of 5G base stations: an energy

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[Intelligent Energy Saving Solution of 5G Base ...](#)

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[Final draft of deliverable D.WG3-02-Smart Energy Saving ...](#)

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Evaluation of the power-saving effect of 5G base station based on AI

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Base stations of the future: using AI and

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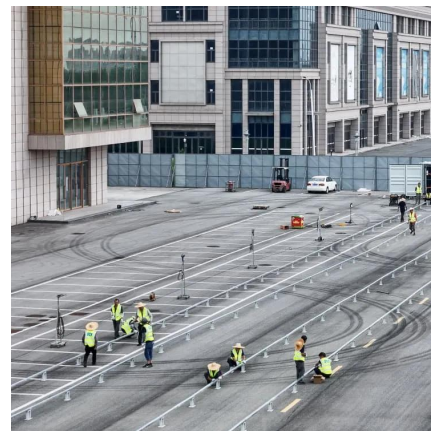


Base Station Energy Saving based on Imitation Learning in 5G ...

Sep 1, 2024 · In this paper, our goal is to minimize the total power consumption of the base station by dynamically controlling the switching status of the base station. This article first ...

Intelligent Energy Saving Solution of 5G Base Station Based ...

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GitHub

Dec 6, 2024 · This project addresses the critical challenge of energy consumption in 5G networks, specifically in Base Stations (BSs), which account for over 70% of the total energy usage. ...



Smart energy saving of 5G base stations: Traffic

May 20, 2021 · This Supplement examines energy-saving technology for fifth generation (5G) base stations (BSs). Some energy-saving technologies developed since the fourth generation ...



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