

Next-Generation Antenna Design for 5G Networks

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Abstract. This study examines the design and implementation of next-generation antennas for 5G networks. Emphasizing the challenges and innovations in antenna technology, the research highlights the role of massive MIMO and beamforming techniques. The paper provides a detailed analysis of antenna performance metrics and their impact on network efficiency.

Keywords: 5G Networks, Antenna Design, Massive MIMO, Beamforming, Network Efficiency

Introduction

With the advent of 5G networks, antenna design has become a critical area of research. This article investigates the latest trends and technologies in antenna design, focusing on massive MIMO and beamforming. These techniques are essential for enhancing network capacity and efficiency. The study evaluates various antenna performance metrics, providing insights into their implications for 5G deployment. By addressing the challenges of high-frequency signal propagation and interference, the research contributes to the optimization of 5G networks.

This is a preliminary version. To read the full version of the article, please purchase a subscription.

References

1. Kumar, N., & Kataria, V. Enhanced Sentiment Classification using a Multi-layered Stacked Ensemble Architecture.