

Overloaded Spread Spectrum OFDMA in Outdoor Environment in the More Interleaving Scenario

Y Arun Kumar Reddy

Assistant Professor, Department of Electronics and Communication Engineering
Rajiv Gandhi University of Knowledge Technologies, RK Valley Campus, Kadapa, India

Abstract: *The advancement of mobile communication technology is driven by innovations or modifications in the latest Radio Access Techniques to meet user demands and enhance capacity. This paper focuses on improving spectral efficiency and average throughput using an OFDM-based multiple access technique. Specifically, we have chosen Overloaded Spread Spectrum OFDMA for this study. Our research findings indicate that implementing a 24% overload leads to an approximate 33% increase in spectral efficiency. This significant improvement demonstrates the potential of Overloaded Spread Spectrum OFDMA in optimizing the performance of mobile communication systems. By increasing spectral efficiency, we can support a larger number of users and higher data rates, which are crucial for the evolving demands of modern mobile networks. This study highlights the importance of adopting advanced access techniques to sustain the growth and efficiency of mobile communications*

Keywords: overloaded; spread spectrum; outdoor; interleaving; Spreading gain (SG)