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Particle Swarm Optimized Selective Mapping for PAPR Reduction

Shashikant Ray
M.Tech. Scholar, Digital Communication
Swami Keshvanand Institute of Technology,
Management & Gramothan (SKIT), Jaipur, India
shashikantr6@gmail.com

Ms. Kiran Rathi
Reader, Dept. of Electronics & Communication
Swami Keshvanand Institute of Technology,
Management & Gramothan (SKIT), Jaipur, India
kiranrathi25@gmail.com

Abstract –**OFDM is a bandwidth efficient multicarrier modulation where the available spectrum is divided into subcarriers, with each subcarrier containing a low rate data stream. OFDM has gained a tremendous interest in recent years because of its robustness in the presence of severe multipath channel conditions with simple equalization, robustness against Inter-symbol Interference (ISI), multipath fading, in addition to its high spectral efficiency. However, the Peak-to-Average Power Ratio (PAPR) is a major drawback of multicarrier transmission system such as OFDM. This paper is focused on learning the basics of an OFDM System and have undertaken various methods to reduce the PAPR in the system like companding, SLM, Random Screening-Selective Mapping (RS-SLM) and Particle Swarm Optimization-Selective Mapping (PSO-SLM). The PSO-SLM form largely reduces the PAPR in the system**

Keywords – **Companding, ISI, OFDM, PAPR, SLM, RS-SLM, PSO-SLM.**

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