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A Novel Approach for SLM Based PAPR Reduction using Genetic Algorithm

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Abstract – **An SLM (Selected Mapping) is an effective algorithm to reduce PAPR (Peak to Average Power Ratio) in OFDM (orthogonal frequency division multiplexing) signal without distortion. However the SLM scheme needs to dispose U paths of IFFT (Inverse Fourier Transform), which increases the computational burden and reduces the signal transmission rate. This paper offers an improved algorithm that based on Genetic Algorithm. The proposed algorithm executes the selection before the IFFT module and only selects one sequence with the highest randomness to be transmitted. Because only one path of signal is transmitted in IFFT modules, the proposed algorithm has lower complexity compares with SLM. Moreover, it has advantages in enhancing the signal transmission rate and decreasing the PAPR of OFDM signals.**

Keywords – **SLM, PAPR, OFDM, IFFT, Genetic Algorithm.**