

ABSTRACT

At digital baseband transmission is needed the existence of pulse shaping filter which can constructing pulses with Inter-Symbol Interference (ISI) and jitter as minimum as possible. We can analyze the result of pulse shaping quality from Eye pattern from that pulses. The theorem of Nyquist-I pulses with its parametric can help us how to design well pulse shaping process, which is can made good pulse shaper filter.

At this final project was simulation the method of pulse shaping filter scheme by certain roll of factor according to Nyquist-I pulses theorem, with the the following parametric construction :

1. *Two-parameter Raised Cosine Pulses*
2. *Parametric Exponential Pulses*
3. *Parametric Linear Pulses (n=1)*
4. *Parametric Linear Pulses (n=2)*
5. *Parametric "Double-Jump" Pulses*

Others to analyze the performance of simulation filter, the pulse result of pulse shaping filter will be condition of trouble of canal of AWGN noise and canal of multipath fading rayleigh.

The result of analysis show for the Nyquist filter using parametric construction get different value of ISI and jitter depend roll of factor (α). The minimum value of ISI and jitter get from *Two-parameter Raised Cosine Pulses* with $\alpha=1$. For bandwidth analyze, bigger roll of factor, make bigger bandwidth filter and bandwidth 3dB will smaller. The performance Filter for the canal of noise AWGN can reach the lowest BER 10^{-4} , and for the canal of multipath fading Rayleigh can reach the lowest BER 10^{-2} .