Comparison of Different Modulation Schemes for Signal Decoding in Analog Network Coding

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***Abstract*— This paper discusses different modulation schemes for the decoding of signals in Analog Network Coding (ANC). Analog Network Coding is a concept in which interference of the signals is considered as advantage rather than disadvantage. Router interferes the signal transmitted from two nodes that want communication between them. At the receiving end the node subtracts its own signal to decode the signal transmitted by the sender. Signal decoding at the receiving end is not a simple problem. Signal has to traverse through the channel to reach the receiver. Channel imparts many distortions in the signal in the form of magnitude and phase. Retrieval of the correct information of the signal in terms of its amplitude and phase is very important. The decoding of the signal at the receiving end depends upon number of factors and one of them is the modulation scheme used. In this paper we use different modulation schemes such as ASK (Amplitude Shift Keying), FSK (Frequency Shift Keying) and MSK (Minimum Shift Keying). We discuss how these modulation schemes affect the analog network coding process. Models are proposed for the retrieval of the signals. Simulations are performed to prove the results.**

***Keyword*— Analog Network Coding, ASK, FSK, MSK, Digital Network Coding, Simulink**

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