Transmission Characteristics of an FDM System Using Mach-Zehnder Filters

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***Abstract*- A plain representation of the amplitude transfer function using a Mach-Zehnder filter model is proposed by applying the analysis technique for a transmission type periodic branching microwave filter. A four-channel frequency division multiplexing system configuration using the Mach-Zehnder filter models is presented as an example of a multi-channel FDM system. The amplitude transfer functions for the channels of the presented system are exhibited by using the proposed representation. The calculated result of a signal to inter-channel interference ratio for the system together with a two-channel and an eight-channel FDM system are shown.**

***Keywords*-Frequency division multiplexing, Mach-Zehnder filter, Periodical branching filter, ASK, Signal to inter-channel interference ratio**

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