Abstracts

Power Transfer of a Parallel Optical Fiber Directional Coupler (Letters)

H. Kuwahara, J. Hamasaki and S. Saito. "Power Transfer of a Parallel Optical Fiber Directional Coupler (Letters)." 1975 Transactions on Microwave Theory and Techniques 23.1 (Jan. 1975 [T-MTT] (Special Issue on Integrated Optics and Optical Waveguides)): 178-179.

This letter describes experimental results of a simple optical fiber directional coupler which picks up a small portion of the transmitted power in a main optical fiber transmission line without affecting the characteristics of the main line. This directional coupler consists of two fibers closely parallel in a certain coupling length; an index matching liquid, Si-oil, fills the coupling region. A 50-dB power coupling and 21=dB directivity are measured. Insertion loss is almost negligible. The measured power coupling is much larger than that expected by the simple coupling theory.

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