

Construction of optical fiber star coupler using cone - shaped end face of multimode fiber

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Abstrak

ABSTRACT

In optical communication system, optical star coupler devices are important for distributing optical signal from one incoming fiber into several outgoing fibers. In this research, an investigation on the design of optical fiber star coupler has been carried out by the use of simple way. Utilizing the cone-shaped end face of several fibers as receivers, optical star coupler has been constructed without using any optical element. An experiment to examine the efficiency of coupling light power from an incoming fiber to seven outgoing fibers has been executed. The measurement shows that each sample of set outgoing fibers receives an equal amount of light power, which means that the individual coupling efficiency of respective outgoing fibers is equal. Therefore, it is concluded that the proposed star coupler is applicable to be utilized for distributing a light signal to several output terminals.