

The use of fiber star-coupler for signal distribution

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Abstrak

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In transmission system, the information to be transmitted from one source to several addressed receivers requires a component to distribute the information. To achieve an efficient and simple distribution circuit of information, a study on the use of fiber as information signal distributor without using other optical elements has been developed as a fiber star-coupler. The optical fiber star-coupler was constructed by chemically processing the end face of fiber into a cone-shaped. The process was carried out by chemical treatment for unjacketed fibers using HF solution.

The optical signal distributed to the outgoing fibers will have as higher intensity as the nearer the fiber to the optical axis.

An efficient fiber star-coupler can be achieved by arranging the optimum number of receiving fibers correspond to coupling distance and numerical aperture of the optical fibers.