

Design and construction of wavelength division multiplexer utilizing distributed index rod lens

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=90136&lokasi=lokal>

Abstrak

ABSTRACT

In optical fiber communication system, WDM (Wavelength Division Multiplexer) is frequently used for transmitting optical signals with different wavelength through one optical fiber line. By the use of WDM, the transmission capacity becomes larger. Therefore, there are several proposed methods for constructing WDM.

In this study an experimental model of WDM system has been designed and constructed by using two optical sources with different wavelengths. The proposed WDM utilizes distributed-index rod lenses as focuser and alignment element of the optical signals.

From the measurement, the performance of the overall system shows a reliable characteristics. A low coupling loss of the light transmission and of the mixing circuit has been achieved. Light sources are used consist of two sources with different wavelength.