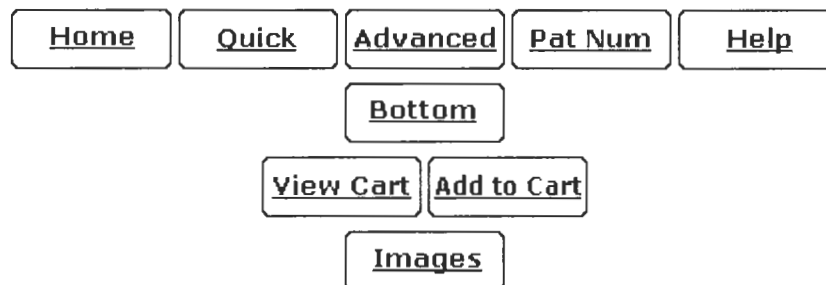


USPTO PATENT FULL-TEXT AND IMAGE DATABASE

(1 of 1)

United States Patent
Dodds

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Optical frequency shifter and transmission system

Abstract

An optical transmission system has an input light guide and N multipath modulators operated as frequency shifters connected in cascade to receive light from the input light guide and output light along N output light guides where N is 1 or more, wherein the light carried by each *i*th output light guide, where *i*=1, . . . , N, is shifted in frequency from light carried by the input light guide by $i \cdot \omega_{\text{sub},m}$, and where each set of multipath modulators contributes a frequency translation of $\omega_{\text{sub},m}$ and where the light from each output light guide is modulated and combined with all other modulated output light to form a multiwavelength transmission system. A receiver equipped with similar frequency shifters is configured to generate a number of optical reference signals of frequencies $\omega_{\text{sub},0} + i \cdot \omega_{\text{sub},m}$, each reference sign to be added as a separate portion of the received signal so as to perform self-homodyne detection of the information signal associated with each respective modulated frequency.

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Intern'l Class: G02B 006/28
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