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(54) Title: INTEGRATED MODE CONVERTER AND MULTIPLEXER

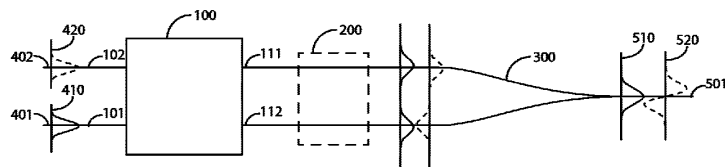


Fig. 1

(57) Abstract: An integrated mode converter and multiplexer (/demultiplexer) is disclosed, which combines a multimode interference coupler (100), at least one phase-shifter (200) and a symmetrical Y-junction (300). The dispersion of the multimode interference coupler (100) is engineered through subwavelength structures in order to achieve a very wide bandwidth. Several phase-shifter (200) topologies for further bandwidth enhancement are disclosed, as well as architectures for multiplexing a greater number of optical modes.

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