Design of 16-Channel, 100-GHz Multimode Polymer-Based AWG

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Abstract. We present design of planar 16-channel, 100-GHz multi-mode polymer-based AWG. This AWG was designed for central wavelength of 1550 nm applying AWG-Parameters tool. The AWG structure was created and simulated in the commercial photonic tool PHASAR from Optiwave. Achieved transmission characteristics were evaluated by AWG-Analyzer tool. For the design, multi-mode waveguides having a cross-section of (4x4) μm^2 were used. The simulated results show strong worsening of the transmission characteristics in comparison when using single-mode waveguides. Nevertheless, the transmitting channels are clearly separated. The reason for using thicker multi-mode waveguides in the design is possibility to fabricate the AWG structure on polymer basis using direct laser writing lithography.