High-Throughput Manufacturing for PIC Polymer Waveguide Using Multiple Exposures

Title: High-throughput Manufacturing for PIC Polymer Waveguides

Invention: Researchers at the University of Arizona have developed a method of fabricating polymer waveguides in polymer films to form the interconnections between optical devices such as PICs to other PICs and Optical Printed Circuit Boards (OPCBs).

Background: An important problem in optical packaging involves the optical interconnection (chip-chip connections) of planar-integrated photonic integrated circuits (PICs) and the connection of such circuits to the external world. PICs allow systems with high complexity and multiple functions to be integrated on a single substrate to allow the generation, detection, propagation and modulation of both optical and electrical signals. But the optical components are made of materials that are not particularly compatible with materials for electronic components.

Advantages:

* By-passes incompatibility issues between optical materials and electronic materials
* Uses off-the self polymer materials

Applications:

* Fabrication of integrated opto-electronic components
* Telecommunications
* Fiber laser manufacturing

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