

Holographic Photonic Crystals

문준혁*

서강대학교

(junhyuk@sogang.ac.kr*)

The fabrication of true three-dimensional (3D) microstructures both rapidly and economically over a large area with negligible defects is attractive for a wide range of applications. Multi-beam interference lithography is one of the promising techniques that can create periodic microstructures in polymers without extensive lithography and etching steps. We discuss the formation of interference patterns, the role of on beam parameters, the lithographic process, and the applications to the formation of photonic crystals. Various photoresist systems, including thick films of negative-tone and positive-tone photoresists, organic-inorganic hybrids, and hydrogels are also reviewed.