

Direct write and interference patterning for practical decorative and functional applications

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Laser based interference patterning has been used in the Holographic packaging and security industries for several decades now. Some of the optical techniques developed to do this have often not been widely described for commercial reasons. In this paper we describe some of the methods used for high speed large area patterning in the decorative packaging industry. We also describe production examples and applications using these techniques. Similar high speed direct write techniques can also cross over into the production of functional surfaces on metals and thin films. Applications for these include the fabrication of engineered optical surfaces and the suppression of secondary electrons in particle accelerators. Some other practical examples are also discussed.