

>> Diffractive Optical Elements



Diffractive Optical Elements

HOLOEYE offers customized design, Mastering and mass replication of diffractive optical elements. Among the computational design methods used are Iterative Fourier Transform Algorithms (IFTA), direct binary search (DBS) algorithms, gradient search algorithms and methods based on the determination of geometrical map transformations. We have capabilities for designing DOEs for projecting patterns on inclined surfaces and with arbitrary angles of diffraction. This allows us to precisely place diffraction spots freely on a surface of interest and to thereby exactly realize very complex patterns.

Standard Diffractive Optical Elements

Additional to customer specific DOEs we offer a series of cost-efficient standard Diffractive Optical Elements (glass and plastics) with various patterns like dot arrays, dot-circles, circles, lines and cross patterns. The DOE structures of the glass elements are replicated (embossed) into a thin film of UV-Acrylat on a standard glass substrate. We offer this line of Standard Diffractive Optics in 3 different substrate configurations.

The plastics DOEs are replicated using plastic materials like Polymethyl Methacrylate (PMMA) or Polycarbonate (PC). With the standard size of 8 mm diameter and 1mm-1.2mm thickness, these elements fit well into numerous standard laser modules.



Pioneers in Photonic Technology

>> Spatial Light Modulators



PLUTO Phase Modulator Series

The PLUTO phase modulator models are based on reflective LCOS microdisplays with 1920 x 1080 pixel resolution and are optimized to provide a phase shift above 2π up to 1550 nm. The PLUTO devices are packaged in an very small housing to ensure an easy integration into optical setups and applications.

The PLUTO phase modulator series will include 3 versions optimized for the visible (420 - 850 nm), the near infrared (850-1100 nm) as well as for typical telecommunication wavelengths (1550 nm) to ensure optimal results for specific requirements.



OPTIXPLORER



OptiXplorer - Optics Education Kit

The OptiXplorer is an educational kit that provides a variety of experiments for both introductory and advanced laboratory courses in optical physics. The primary component of the OptiXplorer is a HOLOEYE Spatial Light Modulator (SLM), which is based on a translucent SVGA LC display with a resolution of 800x600 pixels.

The SLM in combination with several detailed tutorials, easy to use application software, and a laser module are included with the OptiXplorer, thus creating a powerful, low-cost, educational tool that enables the demonstration and active exploration of a wide range of optical phenomena.



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