

The all-fiber generator is fabricated by etching a spiral zone plate (SZP) on the top of the composite fiber structure composed of a single mode fiber and a quarter pitch graded index fiber...

The quality of axially symmetric vortex fields formation using a novel modulator is studied. The modulator is a 12-sectorial spiral plate operating due to the o

To realize long non-diffraction vortex beams, we exploit the model of the Archimedean spiral plate based on binary modulation. Essentially, the non-diffraction property requires the ...

Topics covered include the design and fabrication of these devices, their role in generating vortex beams, and their implementation in imaging systems, optical trapping, and telecommunications.

This novel optical technique holds great promise for enabling light-matter interactions at the nanometer scale, such as in the molecular or atomic regions, by implementing easily controllable ...

Spiral phase plates are a common method, which provides direct efficient generation of beams carried orbital angular momentum from Gaussian beams. They are characterized by high ...

A transmissive adaptable optical setup to generate a range of perfect vortex beams (PVBs) carrying different topological charges (TC) without using moving parts is presented.

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In this paper, by combining two composite concentric SZPs with the m-bonacci sequence, we propose an effective diffractive optical element termed EMCSZPs to produce multi ...

In contrast to the conventional spiral phase plate that is widely used for the generation of ring-shaped vortex beams with an orbital angular momentum (OAM), the GSPP can be used for the ...

A transmissive adaptable optical setup to generate a range of perfect vortex beams (PVBs) carrying different topological charges (TC) without using ...

We simply produce the proposed element by shifting the phase of a spiral zone plate and demonstrate how the phase shift enables us to manage the size of the generated perfect vortex.



Spiral Plate Modulator Vortex Light

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