528. 4Title:Metallic cylindrical focusing micromirrors with long axial focal depth or increased lateral resolution

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Abstract:Using a general focal-length function, two-dimensional long-focal-depth (LFD) metallic cylindrical focusing micromirrors (MCFMs) are designed and the focal performance is systematically investigated based on rigorous electromagnetic theory and the boundary element method. For a positive preset focal depth, simulation results reveal that the designed MCFMs still possess an LFD property and high lateral resolution even when the f-number is reduced to f =0:3. On the other hand, through setting the preset focal depth to be negative, increased lateral resolution is obtained, compared with the conventional MCFM. In addition, under multiwavelength illumination, a large common LFD region is demonstrated for the designed LFD MCFMs, which is due to the intrinsic achromatic property of reflective systems.