Applied Physics Letters

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Cite as: Appl. Phys. Lett. **120**, 229901 (2022); https://doi.org/10.1063/5.0100473
Submitted: 24 May 2022 • Published Online: 03 June 2022

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Submitted: 24 May 2022 · Published Online: 3 June 2022

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This article was originally published online on 18 May 2022 with errors throughout. Equations (3) and (4) have been corrected as follows:

$$\varphi_{spiral} = l\arctan\left(\frac{ey}{x}\right), \tag{3}$$

$$\varphi_{axicon} = -\frac{2\pi NA}{\lambda}\sqrt{x^2 + e^2y^2}, \tag{4}$$

On page 4, the sentence beginning "The difference…," has been corrected as "The difference is mainly caused by the near-field coupling of adjacent nanopillars with different orientations. Due to the simulation of the unit-cell based on periodic boundary condition, which assumes a uniform array and without this problem, the simulated efficiency of the unit-cell is higher than the whole metasurface." Also on page 4, the last paragraph, the first sentence has been corrected as "To generate an elliptical PV beam, we set ellipticity e as 0.7 and use 830 nm incidence in the simulation. Figures 4(d)–4(f) show the simulated intensity profile of the elliptical PV beams at the focal plane ($z = 14\,\mu$m) with $l = 1$, 2, and 3. On page 6, "Scale bar: 4 μm." was added to the end of the Fig. 4 caption.

All online versions of this article were corrected on 23 May 2022; the article is correct as it appears in the printed version of the journal. AIP Publishing apologizes for these errors.