

Optics Letters

Accurate quantitative phase imaging by the transport of intensity equation: a mixed-transfer-function approach: erratum

LINPENG LU,^{1,2} YAO FAN,^{1,2} JIASONG SUN,^{1,2} JIALIN ZHANG,^{1,2} XUEJUAN WU,^{1,2} QIAN CHEN,^{2,3} AND CHAO ZUO^{1,2,*}

¹Smart Computational Imaging Laboratory (SCILab), School of Electronic and Optical Engineering, Nanjing University of Science and Technology, Nanjing, Jiangsu Province 210094, China

²Jiangsu Key Laboratory of Spectral Imaging & Intelligent Sense, Nanjing University of Science and Technology, Nanjing, Jiangsu Province 210094, China

³e-mail: chenqian@njut.edu.cn

*Corresponding author: zuochao@njut.edu.cn

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In this erratum, we correct Fig. 4 of our Letter [Opt. Lett. 46, 1740 (2021)]. This does not change the scientific conclusions of the original Letter. © 2021 Optical Society of America

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On the fourth page of [1], the author identified the calculating errors in the values of the horizontal coordinates of the profiles diagrams in Figs. 4(c3)–4(e3) and that under Fig. 4(b3).

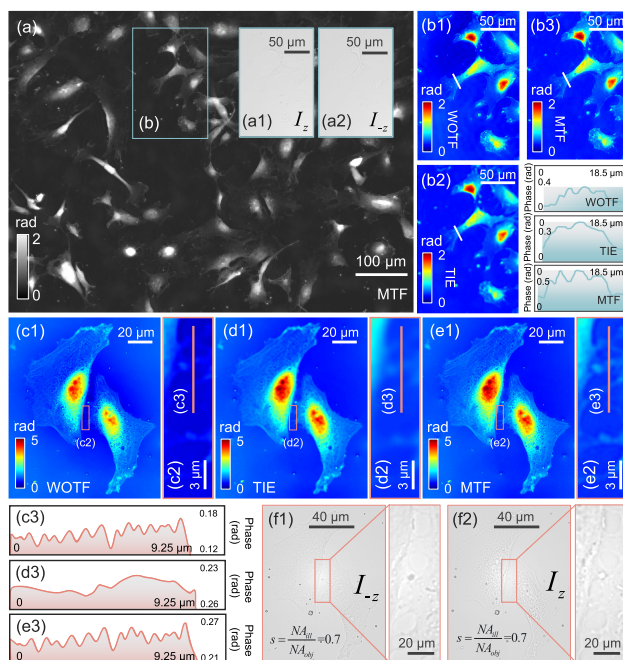


Fig. 1. (a) Phase of 3T3-L1 cells retrieved by MTF with a 10 \times , 0.25NA objective. (a1), (a2) Defocused intensities corresponding to (b). (b1)–(b3) Phase results corresponding to (b) by using WOTF, TIE, and MTF. (c1)–(e1) Recovery phase of HeLa cells with a 40 \times , 0.65NA objective by WOTF, TIE, and MTF. (c2)–(e2) Enlarged views corresponding to boxes in (c1)–(e1). (c3)–(e3) Profiles corresponding to lines in (c2)–(e2). (f1), (f2) Defocused intensities of HeLa cells.

In the profiles diagrams shown in the previous Fig. 4, the values of the horizontal coordinates are 0 – 185 μm [the profiles diagram below Fig. 4(b3)] and 0 – 370 μm [Figs. 4(c3)–4(e3)]. These data are calculated based on the pixel size of the sensor and the number of pixels occupied by the profile lines. But in a microscope imaging system, the actual data of the profile lines should be divided by the magnification of the objective after the pixel size is multiplied by the number of pixels.

Therefore, in this erratum, we have corrected the errors in the horizontal coordinates of the profiles diagrams in Figs. 4(c3)–4(e3) and below Fig. 4(b3). The specific amendments are as follows: the actual value of the horizontal coordinates should be 0 – 18.5 μm [the profiles diagram at the bottom of Fig. 4(b3); the original data is divided by the objective magnification 10 \times] and 0 – 9.25 μm [Figs. 4(c3)–4(e3); divide the original data by the objective magnification 40 \times].

In the previous error version, due to the miss of the divisor (objective magnification), the data corresponding to the horizontal coordinates of the profiles diagrams did not correspond to the drawn scale bar, which will cause readers' confusion. Therefore, Fig. 4 should be corrected as Fig. 1. The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way.

REFERENCE

1. L. Lu, Y. Fan, J. Sun, J. Zhang, X. Wu, Q. Chen, and C. Zuo, *Opt. Lett.* **46**, 1740 (2021).