Errata: Geometric superresolution using an optical rectangular mask

Mohammad Sohail
Asloob A. Mudassar
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Mohammad Sohail
Asloob A. Mudassar
Pakistan Institute of Engineering and Applied Sciences
Department of Physics and Applied Mathematics
45650 Islamabad, Pakistan
E-mail: sohail.dagiwal@gmail.com

This article [Opt. Eng. 51, 013203 (2012)] was originally published on 11 February 2012 with an error in Eqs. (8) and (9), where \( \text{rect}(\frac{v}{2\Delta V}) \) should have been written as \( \text{rect}(\frac{v}{\Delta V}) \). The corrected equations appear below.

On p. 2, the equation below Eq. (8) becomes

\[
\tilde{S}(v) = \left\{ G(v) \left[ \sum_{k=-\infty}^{\infty} \delta(v - kp) \otimes \text{rect}\left(\frac{v}{\Delta V}\right) \right] \right\} \otimes \sum_{n=-\infty}^{\infty} \delta(v - n\Delta V).
\]

Equation (9) has been corrected to read:

\[
\tilde{S}(v) = \sum_{n=-\infty}^{\infty} \{ G(v) \otimes \delta(v - n\Delta V) \} \left\{ \left[ \sum_{k=-\infty}^{\infty} \delta(v - kp) \otimes \text{rect}\left(\frac{v}{\Delta V}\right) \right] \otimes \delta(v - n\Delta V) \right\}
\]

\[
\tilde{S}(v) = \sum_{n=-\infty}^{\infty} G(v - n\Delta V) \left\{ \left[ \sum_{k=-\infty}^{\infty} \delta(v - kp - n\Delta V) \right] \otimes \text{rect}\left(\frac{v}{\Delta V}\right) \right\}
\]

The sentence following Eq. (9) has been changed from “Equation (11)” to “Equation (9).” The corrected sentence reads, “Equation (9) is multiplied by the decoding mask . . . .”

Moreover, errors in equation numbers, reference numbers, and equation values were corrected in the first two paragraphs of Sec. 3. The corrected text appears as follows:

3 Simulation Results

We did the simulation for this work using Mathematica software (Wolfram Research, Inc., Champaign, IL). In this simulation we take a Gaussian function as input object with width \( X = 73 \) points in one dimension, shown in Fig. 1(a). The Fourier transform of the input object in one dimension in Fig. 1(b) is multiplied with the optical rectangular mask [period of two point pixels, shown in Fig. 1(c)] to encode the spectrum of the input object of width \( 2\Delta V = 51 \) points in the Fourier domain, shown in Fig. 1(d). The mask in Ref. 1 consists of three different regions that require certain conditions be satisfied, that is, the mask is a three-region mask and all the three regions have different properties.

The manuscript was corrected online on 4 April 2012.