Erratum: Experimental X-Ray Ghost Imaging [Phys. Rev. Lett. 117, 113902 (2016)]

Daniele Pelliccia, Alexander Rack, Mario Scheel, Valentina Cantelli, and David M. Paganin
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The camera frame rate quoted in the Letter refers to a theoretical value determined only by the shutter speed, which sets the exposure time to 347 ns. In reality CMOS cameras, such as the one we used, have a nonzero dead time between exposures, which sets a maximum frame rate that is lower than the theoretical value. The actual frame rate in our experiment was 48 times slower than the theoretical value quoted. The main result of the Letter—i.e., that x-ray ghost imaging reconstruction is possible using the x rays emitted by individual electron bunches—is unaffected by this difference, since it depends only on the exposure time. The short exposure time is the key experimental parameter, as it ensures that the camera is capturing light emitted from individual, albeit not consecutive, electron bunches. The actual camera frame rate was 53.5 kHz, and the main peaks in the power spectrum used for ghost imaging reconstruction are located at 14.8 kHz (corresponding to selecting every 96th pulse) and 23.9 kHz (nearly 1 pulse every 48), respectively.

FIG. 3. The effect of Fourier filtering on the ghost image. (a) Power spectrum of the bucket signal. The low frequency components are related to mechanical instabilities of the crystals. The two sharp peaks visible at higher frequency correspond to 14.8 kHz (selecting every 96th pulse) and to 23.9 kHz (nearly 1 pulse every 48, see the text for details). The region marked by the dashed box is zoomed in (b), where three different windows used for calculation are overlaid. (c)–(e) Ghost images obtained by Fourier filtering with the windows displayed in (b). Ghost imaging is obtained only when the window includes the alias of the storage ring frequency. Only in this case is a true correlation between the reference and the bucket beam present. The image size in (c)–(e) is 3.7×2.8 mm ($H \times V$).

FIG. 3 (Suppl. Mater.). Ghost imaging reconstruction using the 14.8 kHz peak in the frequency spectrum. The image size in panels (c)–(e) is 3.7×2.8 mm ($H \times V$).

To correct for the different frame rate, Fig. 3 of the Letter and Fig. 3 of the Supplemental Material must be replaced. The only difference in the updated figures is a corrected scale on the frequency axes.

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