Erratum: *Chandra* observations of five ultraluminous X-ray sources in nearby galaxies

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The paper '*Chandra* observations of five ultraluminous X-ray sources in nearby galaxies' was published in Mon. Not. R. Astron. Soc. **349**, 1193–1210 (2004). Here we correct an error in the published light curve of the ultraluminous X-ray source (ULX) CXOU J123558.6+275742 (NGC 4559 X-4).

In its first epoch observation (2001 January 14) this source was located at the edge of the area covered by a 2-arcmin wide subarray of the Chandra ACIS-S3 chip. The observation itself was centred at the position of NGC 4559 X-1 (cf. Fig. 1 of the original paper). We have subsequently discovered that the large amplitude of the dither incorporated into Chandra ACIS-S observations (± 8 arcsec) shifted the position of the subarray to the extent that CXOU J123558.6+275742 was not within its spatial window for a substantial fraction of each dither (~294 s out of the 707.1-s pitch period of the dither). These data gaps were not detected by the original 404-s binning of the light curve (we note that the CIAO tool LIGHTCURVE will only notice such gaps if they are explicitly excluded by the use of 'good time intervals' in the light curve extraction, hence caution is required when investigating variability in Chandra sources at the edges of subarrays and/or near chip gaps). We present a new light curve for the first epoch observation of CXOU J123558.6+275742, corrected for the data gaps, in Fig. 1.

The main implication of not correcting for the data gaps was that the source appeared highly variable on the adopted binning of 404 s. After the appropriate corrections CXOU J123558.6+275742 no longer appears variable, with a χ^2 test against the hypothesis that the source count rate remains constant returning a result of $\chi^2/dof = 10.9/13$ for the light curve shown in Fig. 1. Hence now only one detection of short-term variability in the ULX sample remains (CXOU J 120922.2+295600; we note that this source cannot suffer the same problem, as it is located ~11 arcsec from the aimpoint), adding even more weight to the finding that a lack of short-term variability seems to be a characteristic in *Chandra* observations of ULXs.

Finally, the measured count rates and fluxes presented in the original paper also require correcting for the time per dither spent outside the subarray window. The corrected value for the first epoch count rate (cf. Table 3) is 106 ± 5 count ks⁻¹, and the observed



Figure 1. The corrected light curve from the first epoch observation of CXOU J123558.6+275742. We show the data accumulated from each individual dither period as a separate bin.



Figure 2. The corrected long-term light curve of CXOU J123558.6+275742. The observed flux is measured in the 0.5–2 keV band. The symbols are as per Fig. 6 in the original paper.

(intrinsic) 0.5–8 keV luminosities from the best-fitting MCDBB model (cf. Table 4) are now 7.2(7.4) $\times 10^{39}$ erg s⁻¹. Hence the apparent variation between the two *Chandra* observations of CXOU J123558.6+275742 is reduced greatly, from a factor ~2 to a factor ~1.1. For completeness we present the corrected long-term light curve for this source in Fig. 2.

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