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Erratum: the SAMI Galaxy Survey: can we trust aperture corrections to predict star formation?

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The paper 'The SAMI Galaxy Survey: can we trust aperture corrections to predict star formation?' was published in MNRAS 455, 2826 (2016). A mischaracterization of the data presented in Figs 10 & 11 of the original paper affects our conclusion on the biases found in the Brinchmann et al. (2004, hereafter B04) aperture correction. Conclusions regarding the Hopkins et al. (2003, hereafter H03) aperture correction remain unaffected.

In Section 3.3, we state, 'When the nuclear spectra underestimate the Balmer decrement for the disc, the SFR (star formation rate) derived from an aperture correction cube built from only nuclear spectra is overestimated. Inversely, when the nuclear spectra overestimate the Balmer decrement for the disc, the SFR is underestimated.' This is incorrect, and should read, 'When the nuclear spectra underestimate the Balmer decrement for the disc, the SFR derived from an aperture correction cube built from only the nuclear spectra is underestimated. Conversely, when the nuclear spectra overestimate the Balmer decrement for the disc, the SFR is overestimated.'

In the caption for Fig. 10, we state, 'For positive difference, the nuclear ACC (aperture correction cube) underpredicts the SFR found from the disc ACC, and vice versa'. This should read that for positive difference, the nuclear ACC overpredicts the SFR found from the disc ACC, and vice versa.

In the caption for Fig. 11, we state, 'Galaxies with a higher SFR (or higher stellar mass) tend to have more dust in their disc compared to their nucleus.' What the data actually show is that galaxies with higher SFR (or higher stellar mass) tend to have more dust in their nucleus compared to their disc. This agrees with the results of Iglesias-Páramo et al. (2013), to which we correctly compare in Section 4.2 of the original paper.

In Sections 4.2 and 5(v), we conclude that the previously thought under/overestimation of B04 for high/low star-forming galaxies can explain the slope found in Fig. 3(c) of the original paper. This conclusion should state that for high star-forming galaxies, their decreasing dust gradient implies that the B04 aperture correction would overpredict the instantaneous SFR. For low star-forming galaxies, B04 would underpredict the instantaneous SFR. If corrected for, the gradient of the slope found in Fig. 3(c) would deviate furthermore from a 1:1 relationship. The magnitude of this correction remains unknown due to the mismatch of spectral filters used, but these data still highlight the existence of a bias due to the dust degeneracy of the B04 aperture correction.

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