



# ERRATUM: “NEW CONSTRAINTS ON COSMIC POLARIZATION ROTATION FROM THE ACTPOL COSMIC MICROWAVE BACKGROUND B-MODE POLARIZATION OBSERVATION AND THE BICEP2 CONSTRAINT UPDATE” (2015, ApJ, 805, 107)

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1. Equation (6b) should read:

$$C_l^{\text{EB,obs}} = (C_l^{\text{BB}} - C_l^{\text{EE}}) \sin(2\alpha) \cos(2\alpha), \quad (6b)$$

2. Equation (7b) should read:

$$\begin{aligned} C_l^{\text{EB,obs}} &\approx (C_l^{\text{BB}} - C_l^{\text{EE}}) \langle \sin(2\alpha) \cos(2\alpha) \rangle \approx 2(\langle \alpha \rangle - (8/3)\langle \alpha^3 \rangle)(C_l^{\text{BB}} - C_l^{\text{EE}}) \\ &\approx -2\langle \alpha \rangle C_l^{\text{EE}}, \end{aligned} \quad (7b)$$

3. Equation (8a) should read:

$$C_l^{\text{EB,obs}} \approx -2\langle \alpha \rangle C_l^{\text{EE,obs}}, \quad (8a)$$

4. The third sentence after Equation (8b) should read: Naess et al. (2014) have used ACTPol E and B spectra from  $500 < l < 2000$  to constrain the parameter  $(\beta - \langle \alpha \rangle)$  to be  $0^\circ.2 \pm 0^\circ.5$  in the IAU convention.

5. In the second paragraph of Section 3.1 the result for  $\alpha_\beta$  should be replaced by:

$$\alpha_\beta = -(\beta - \langle \alpha \rangle) = -0^\circ.22 \pm 0^\circ.32$$

Similarly at the end of the third paragraph of Section 3.1 the result for  $\langle \alpha \rangle$  should be replaced by:

$$\langle \alpha \rangle = -(\beta - \langle \alpha \rangle) + \beta = -0^\circ.22 \pm 0^\circ.32 \pm 0^\circ.5 \approx -0^\circ.2 \pm 0^\circ.6$$

A similar sign correction should be applied to the results for  $\alpha_\beta$  in the caption of Figure 1, at the top of Figure 1, and in Section 3.2.

6. Table 1 should read:

**Table 1**

Results of Least-square-fitting of the Mean CPR Rotation Angle with Instrument Offset, i.e.,  $\alpha_\beta (= \langle \alpha \rangle - \beta)$ , to EB, EE, TB, & TE Polarization Data of ACTPol (Naess et al. 2014) using Equations (8a)  $C_l^{\text{EB,obs}} \approx -2\alpha_\beta C_l^{\text{EE,obs}}$ , and (8b)  $C_l^{\text{TB,obs}} \approx -2\alpha_\beta C_l^{\text{TE,obs}}$ .  $N$  is Number of Data Points;  $n$  is Number of Fit Parameters

Data Used	Fitted Parameter $\alpha_\beta$ (mrad)	$\chi_{\min}^2$ [Reduced $\chi^2$ ] ( $N-n$ )	$1\sigma$ Upper Limit on $ \alpha_\beta $ (mrad)
$D_l^{\text{EB,obs}}$ and $D_l^{\text{EE,obs}}$ ( $l = 475-2025$ )	$-3.8 \pm 5.6$ ( $-0^\circ.22 \pm 0^\circ.32$ )	14.2 [0.47] (31-1)	9.5 ( $0^\circ.54$ )
$D_l^{\text{TB,obs}}$ and $D_l^{\text{TE,obs}}$ ( $l = 475-2025$ )	$-7.5 \pm 15.2$ ( $-0^\circ.43 \pm 0^\circ.88$ )	38.7 [1.29] (31-1)	22.8 ( $1^\circ.31$ )

## REFERENCES

Naess, S., Hasselfield, P., McMahon, J., et al. 2014, *JCAP*, 10, 007