

**Erratum: Circularly Polarized X Rays as a Probe of Noncollinear Magnetic Order
in Multiferroic TbMnO₃
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The electric polarization \mathbf{P} in Fig. 1(c) and electric field in Fig. 2(a) should be reversed. In Fig. 2(a), the $+/-$ sign in violet (online) about the sample indicates correctly the electric potential. The cycloid drawn as “domain 1” in Fig. 1(c) is associated to an electric polarization \mathbf{P} directed towards $-\mathbf{c}$, while for “domain 2” it is towards $+\mathbf{c}$, opposite to what is shown in the drawing. Throughout the whole article, $\mathbf{E} > 0$ ($\mathbf{E} < 0$) should be understood as the field \mathbf{E} towards $-\mathbf{c}$ ($+\mathbf{c}$). With this definition, the sentence 15 lines from the bottom of first column p. 4 is kept unchanged: “We conclude that cooling in a positive electric field led to . . . transverse spiral of the Mn atoms is anticlockwise . . .” In the third paragraph of the second column p. 3, the third sentence should be amended as “Consider one Mn . . . along $\pm\mathbf{c}$ (sign determined according to the direction *opposite* to the electric polarization).” With this reversal of the electric polarization, our result agrees with the erratum [1] published after Ref. [17].

The magnetic structure factor was calculated along the formulas given by Blume and Gibbs, Ref. [22]. They use a scattering vector as $\mathbf{q} = \mathbf{k} - \mathbf{k}'$ and a sign of imaginaries such that the waves are as $\exp(-i\omega t)$. We consistently used the same wave form for the light. In the Letter presentation instead, we name the peaks according to the crystallographer’s convention $\mathbf{q} = \mathbf{k}' - \mathbf{k}$. Using the vector \mathbf{A}'' from Ref. [22], we observed that its definition at the top of p. 1781 is erroneous. Instead, we used its definition Eq. (4a), which we checked and found to be correct.

[1] Y. Yamasaki, H. Sagayama, T. Goto, M. Matsuura, K. Hirota, T. Arima, and Y. Tokura, *Phys. Rev. Lett.* **100**, 219902(E) (2008).