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Erratum: "Electric field induced polarization rotation in squaric acid crystals revisited" [Condens. Matter Phys., 2022, 25, No 4, 43710: 1–10, doi:10.5488/CMP.24.43703]

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It should have been mentioned in [1] that the T-E_1 phase diagram in figure 3 (left) and the $P_1(E_1)$ curve in figure 4 (left), both obtained with the set B of the model parameters, correspond, in fact, to the field directed at some vanishingly small angle $\delta\varphi_E$ to the axis a. Specifically, the value of $\delta\varphi_E = 0.1°$ was used in calculations. No high-field transition from NC90 to FE phase at low temperatures was detected below 10^4 kV/cm. Just like for the analogous diagram obtained with the set A in [2] (figure 8 therein), the field direction was tweaked in order to remove the degeneracy of the system configuration, occurring in the fields applied exactly at 45° to the axes of spontaneous sublattice polarizations.

For the sake of completeness, below we present the T-E phase diagram of squaric acid, calculated with the set B and corresponding to the field E_1 *exactly*. Its basic topology is the same as in figure 3 (left-hand) of [1]; no discernible change in the positions of the transition lines I, II, IV or of the critical end point CEP is detected. However, lines I and II are elongated, as the bicritical end points BCE_1 and BCE_2 terminating them in figure 3 [1] are here shifted towards each other and transformed into tricritical points TCP_1 and TCP_2, connected by a short line of the second order phase transitions.

The $P_1(E_1)$ curve, calculated for the field E_1 exactly, is indistinguishable from the curve, plotted in figure 4 (left) of [1]. All the conclusions drawn in [1] remain valid.

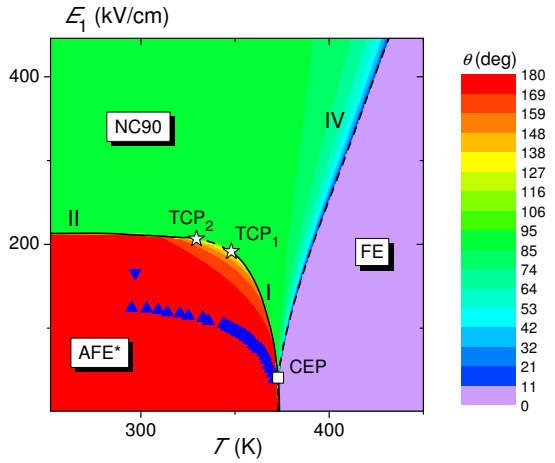

Figure 1. (Colour online) The T-E_1 phase diagram of squaric acid, overlapping the color contour plot of the angle θ between the sublattice polarization vectors. The set B is used in calculations. Lines and symbols are the same as in figure 2 of [1].

References

1. Moina A.P., Condens. Matter Phys., 2022, **25**, No 4, 43710, doi:10.5488/CMP.25.43710
2. Moina A.P., Condens. Matter Phys., 2021, **24**, No 4, 43703, doi:10.5488/CMP.24.43703

Erratum: “Ще раз про обертання поляризації електричним полем в кристалах квадратної кислоти” [Condens. Matter Phys., 2022, 25, No 4, 43710: 1–10, doi:10.5488/CMP.24.43703]

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