Erratum: Splitting of the transition to the antiferroelectric state in $PbZr_{0.95}Ti_{0.05}O_3$ into polar and antiferrodistortive components [Phys. Rev. B 88, 094107 (2013)]

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In Refs. [1,2] we identified the stiffening of the Young's modulus measured during cooling from the ferroelectric phase with the orthorhombic tilt (OT) mode and the softening with the antiferroelectric (AF) mode. At that time, as the only explanation for a steplike stiffening during cooling through a structural phase transition we found the loss of one tilt system from the disordered tilted phase (with octahedral rotations about all axes) to the orthorhombic phase, untilted along the c axis.

Having later ascertained that the ferroelectric phase is in general softer than the paraelectric one due to combined direct and converse piezoelectric effects [3–5], we are now convinced that the stiffening observed during cooling is rather due to the loss of the piezoelectric softening when passing from the ferroelectric to the antiferroelectric state. Therefore, we attribute now the stiffening on cooling to the AF mode and the softening to the OT mode.

What is written in Refs. [1,2] is valid if one exchanges AF and OT everywhere, except for some inessential comments to a few fittings. Some of the fits of the $s'(T)$ curves are slightly different, due to the compatibility conditions between the different phases embedded in the fitting equations, but the parameters remain identical or very similar with AF and OT exchanged. Also the discussions of the effect of the loss of tilting about the c axis remains valid, though evidently it is not enough to transform into stiffening the expected softening at the onset of the long-range order below T_{OT}.

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