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Erratum

[Phys. Status Solidi RRL 5, No. 3, R107–R109 (2011)]

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In our article, we reported the observation of monoclinic M2 to M1 structural phase transition in VO₂ single crystal near the temperature of ~49 °C. However, the re-examination of Laue patterns reveals that previously defined monoclinic M1 and M2 phases can be interpreted as monoclinic M2 and triclinic T phases instead. Careful experimental geometry cali-

bration and further refinement of the lattice parameter ratios and angles show that monoclinic M2 and triclinic T phases fit better with the experimental data. On the other hand, our previous misidentification of the insulating phases does NOT affect the conclusions of our article.

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The re-examination of Laue patterns reveals that previously defined monoclinic M1 and M2 phases can be interpreted as monoclinic M2 and triclinic T phases instead. The indexation of the monoclinic M1 and M2 phases of Fig. 2 in Ref. [1] has been re-evaluated (see Fig. 1). Because the different insulating phases in VO₂ are structurally very close and typically appeared as twins of up to four variants, they are difficult to tell apart by either X-ray or electron single crystal diffraction. Careful experimental geometry calibration and further refinement of the lattice parameter ratios and angles have allowed us to obtain a much better fit to the experimental reflection position values. According to the new fitting results, the previously defined monoclinic M1 and M2 phases in Ref. [1] can be now unambiguously interpreted as monoclinic M2 and triclinic T phases, respectively. With increasing temperature, the VO₂ crystals exhibit phase transitions from triclinic T to monoclinic M2 to rutile R phases [2]. The misidentification of the insulating phases does, however, in no way affect the conclusions of the paper.

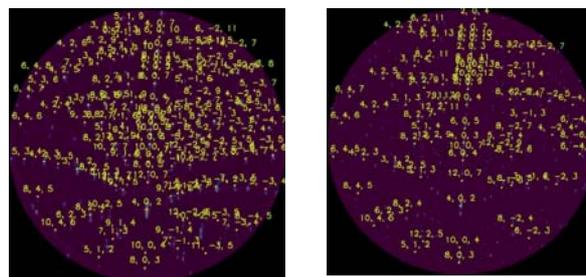


Figure 1 Laue patterns of triclinic T and monoclinic M2 phases from VO₂ crystal structures obtained from μ -XRD at 25 °C and 52 °C, respectively.

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