

Massively strained VO₂ thin film growth on RuO₂

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Supporting Information

In order to verify the thickness of the VO₂ thin films that were deposited on the RuO₂ islands as described in the main article, x-ray reflectivity (XRR) measurements were carried out in the group of Andreas Stierle at DESY Deutscher Elektronensynchrotron Hamburg. The instrument provides a Cu K_α source with a spot size of 0.25 × 0.25 mm² and a divergence of 5 × 5 mrad².

The XRR curve shown in Figure 1 (left) along with the fit of the data. The curve exhibits weak oscillations because of the high roughness. A satisfying fit of the data could only be achieved using three different layer components with two of them having a different roughness σ as shown in Figure 1 (right). This can be interpreted in terms of the two primarily found types of RuO₂ islands ((110)-oriented and (100)-oriented) having different thicknesses.

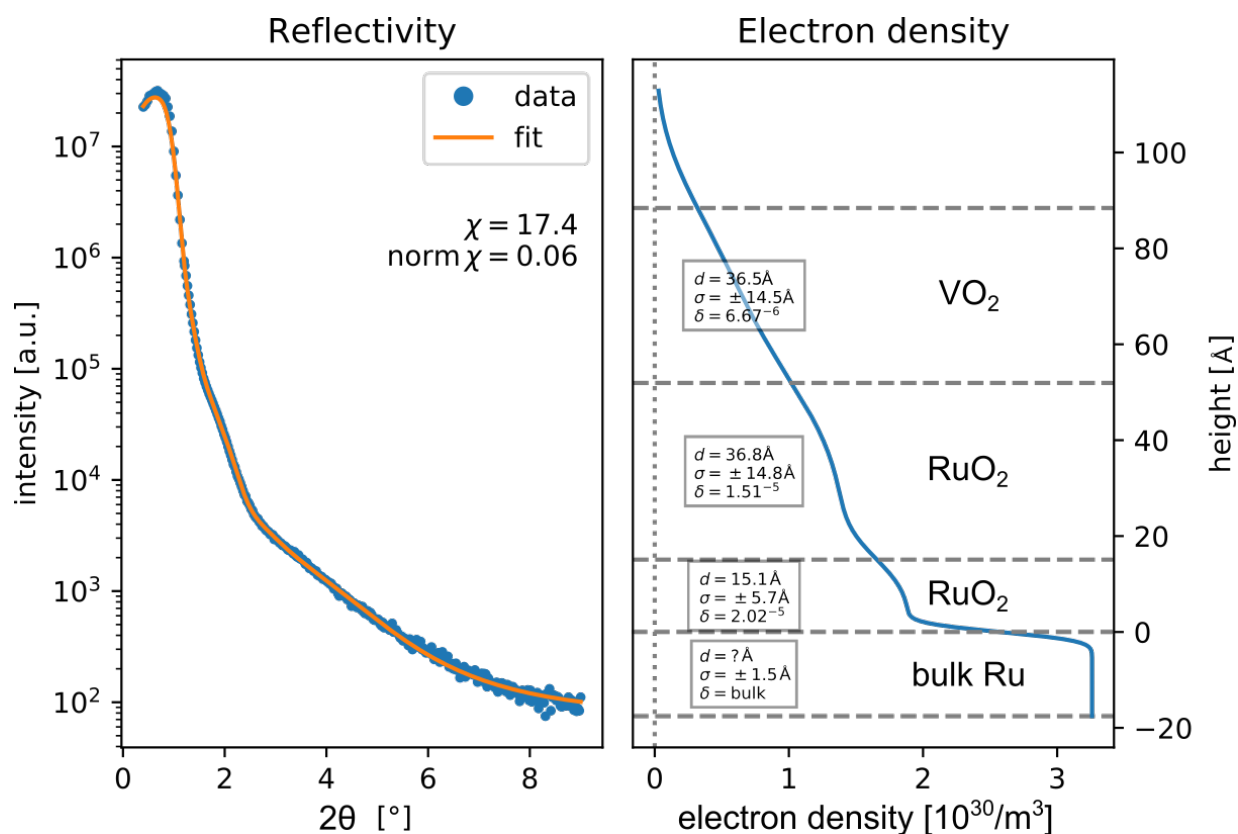


Figure 1: Left: XRR data and fit. Right: Corresponding electron density profile of the sample surface region.

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