

TEM and SFM of exsolution and twinning in an alkali feldspar

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ABSTRACT

Transmission electron microscopy (TEM) reveals exsolution lamellae in a cryptoperthite; their spacing results in a greenish-yellow iridescent color. High-resolution TEM images show that the boundaries between Ab-rich and Or-rich lamellae are semi-coherent along the **b** axis.

Scanning force microscopy (SFM) of a (001) cleavage surface reveals exsolution lamellae, wave-like (001) surfaces of the Ab-rich lamellae, and surface steps with heights of ~6.6 and ~3 Å. The wave-like (001) surfaces of albite twin lamellae may result from surface relaxation. Surface height differences between Ab- and Or-rich lamellae in some areas indicate a semi-coherent boundary along the **c** axis.