

*American Mineralogist, Volume 84, pages 1932–1938, 1999*

## **Mottled contrast in TEM images of mica crystals**

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### **ABSTRACT**

Mottling in  $[uv0]$  micrographs is a common feature of phyllosilicates observed with transmission electron microscopes and has been attributed to various mechanisms. The similar appearance of the mottling among various samples suggests that it arises from a common mechanism. Diffraction-contrast experiments demonstrate that it is caused by variations in basal plane spacings. A second type of mottling was identified that has not been previously described. This mottling is most apparent in dark-field images obtained with the electron beam oriented approximately normal to the basal plane, but the mechanism responsible for this mottling could not be determined. Both types of mottling occur as primary features but can be affected or even created by beam-induced changes. The induced nature of some mottling suggests that caution should be used when interpreting mottled features.