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19 JUNE 1987

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Optical micrograph of zoning in a natural (570 million years old) zircon single crystal from Sri Lanka, viewed in a petrographic thin section between crossed polars. The field of view is 0.8 millimeter in length. The order of interference colors correlates inversely with UO2 and ThO2 contents of the layers. The microfractures perpendicular to the layering are the result of stress caused by anisotropic expansion of the unfractured layers, which have accumulated the greatest alpha-decay damage. This single crystal has a range of alpha-decay dose which spans the transition from the crystalline to the metamict state. See page 1556. [B. C. Chakoumakos et al., University of New Mexico, Albuquerque 87131]

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