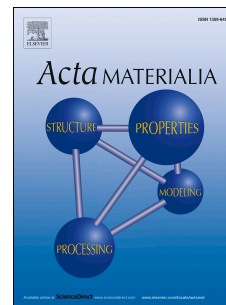


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Evidence for Deformation-Induced Phase Transformation in a High Sn Content Zirconium Alloy

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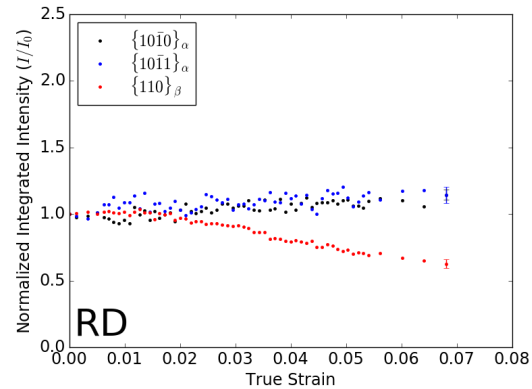
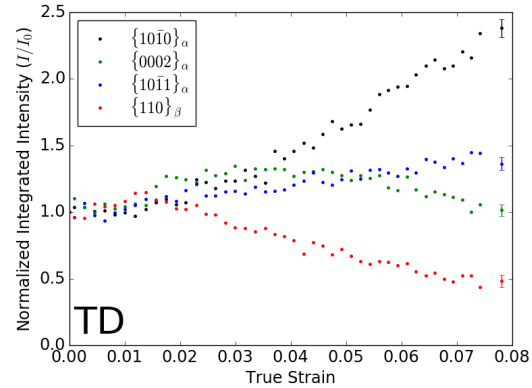
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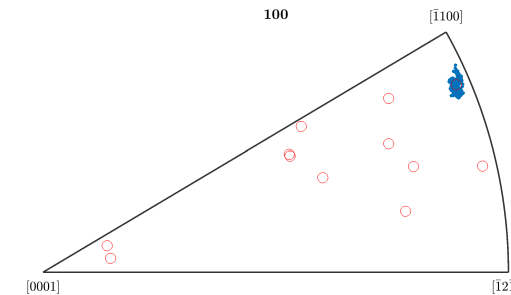
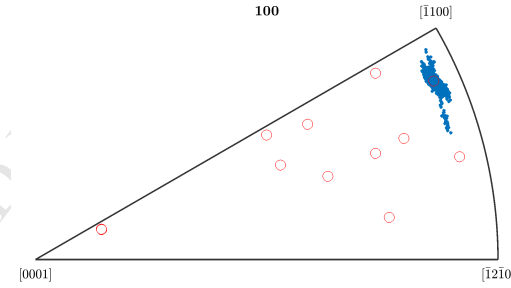
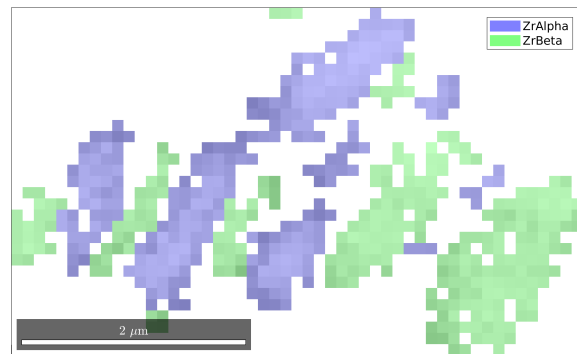
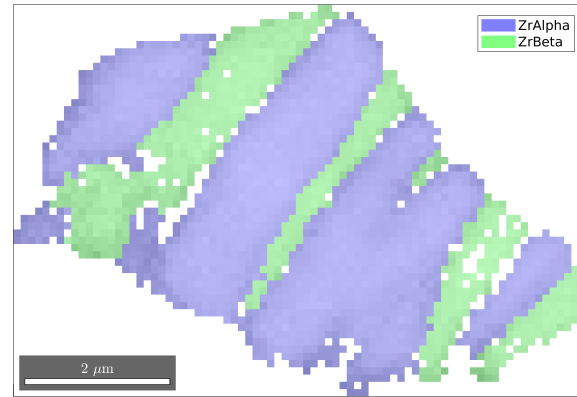
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Evidence for Transformation-Induced Plasticity in a High Sn Content Zirconium Alloy

Integrated intensity of β phase reflection decreases during straining in tension

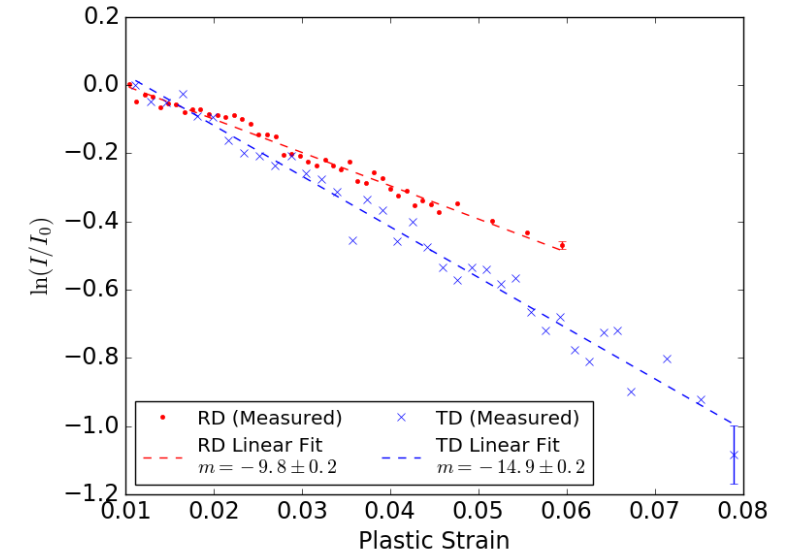


Post-deformation EBSD reveals formation of α laths in β grains, with strong variant selection



The change in β peak intensity follows an exponential decay that agrees with the observed variant selection

$$\ln\left(\frac{I}{I_0}\right) \propto \ln\left(\frac{V_\beta}{V_0}\right) = -\frac{\epsilon}{1-\gamma}$$



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