



CONFERENCE

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Variant Selection during Primary, Secondary & Tertiary Twinning in Mg and Ti

Mg and Ti specimens were deformed in tension and compression at room temperature so as to produce copious mechanical twins. This led to the sequential formation of primary, secondary and tertiary twins of both the extension and contraction variety. The Schmid factors (SFs) associated with the various twins were determined and it was observed that numerous low SF twins were formed. It was also established that numerous potential high SF twins were absent. The presence of the low SF twins and absence of some of the high SF twins is explained in terms of the accommodation work that would be required in the grains adjacent to the twinned regions. A method is described for calculation of the work involved in accommodating twin formation. The low SF twins that appear only require small amounts of accommodation work (basal glide in Mg and prismatic glide in Ti). The absent high SF twins would have required very large amounts of work (prismatic glide in Mg and pyramidal glide in Ti) and so cannot form.

AMPHITHEATRE Émilie du Châtelet

Mardi 10 Juin 2014

13h15-14h45