

## Comparison of observed grain boundary migration to capillary driving forces

Recent studies of grain growth in polycrystals by three-dimensional high energy X-ray diffraction microscopy have been able to quantify grain boundary migration rates in a variety of materials. One of the principal findings has been that grain boundary curvature is not a good predictor of the direction or speed of grain boundary migration. This presentation will focus on the influence of grain boundary energy anisotropy on the driving force and, more specifically, the anisotropy associated with the grain boundary plane inclination. Grain boundary migration observations will be compared to the driving force that includes the grain boundary stiffness and to the weighted mean curvature driving force that includes the influence of the energies of connected grain boundaries that meet at triple lines. The latter driving force predicts that local grain boundary area changes are correlated to the difference in the energies of the grain boundaries that meet at a triple line. This prediction is consistent with experimental observations and causes low energy grain boundaries to expand and reduce the areas of higher energy boundaries.

### Professional Status of the Speaker

Senior Scientist

### Interest in submitting a paper in a special issue of

No interest

### Invitation letter for visa

No

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