

HRTEM of Screw Dislocations in a Small Angle Grain Boundary

Illustration

- The **HRTEM** picture shows sets of $\{111\}$ lattice planes for a tilt boundary on $\{111\}$. There are three sets of screw dislocations, but only one set can be seen.
- The left picture is an overview. The small angle grain boundary is inclined (it is essentially contained between the two red lines); to the far left or right just one of the two grain is seen.
 - Depending on the local thickness of the grains in the area where they overlap, grain one or grain two dominates the picture.
 - Traces of the two grains are marked in red and blue; the red trace has been shifted to show the twist angle (and the extension of the boundary).
 - The enlargement with a tracing of a $\{111\}$ plane shows the effect of the screw dislocation.

