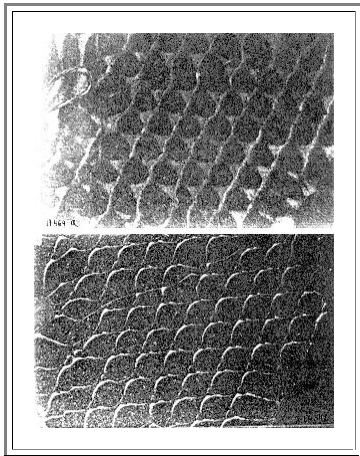


Weak-beam Image of a Network of Partial Dislocations

Shown are two weak-beam images of the same area of a dislocation network with threefold symmetry in a small angle grain boundary in Silicon.

- Three sets of screw dislocations split into partial dislocations interact to form a network of partial dislocations bounding extended and constricted stacking faults.

Illustration



- Only one set of dislocations and one kind of stacking fault is visible

- Two sets of dislocations are visible; the stacking faults are invisible.

With more images the Burgers vector of all dislocations and the displacement vectors of the stacking faults can be determined. The complete analysis of this network is given in chapter 7; here the images only serve to illustrate that what you see depends very much on the imaging conditions.