03/01/2021

HW11/12: Dislocation Mechanics

1.

Derive that the force on a dislocation is given by the product of the applied shear stress, applied parallel to the slip plane, and the slip vector of the dislocation.

2.

Provide the argument why a dislocation may have a meandering nature while lying in a given slip plane.

Why does this dislocation have a constant slip vector?

3.

Why is the force exerted on a dislocation by a shear stress applied parallel to the slip plane always in a direction that is normal to the line vector of the dislocation?