Stacking fault energy and dislocation splitting in ^{4}He crystals

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We present evidence for the existence of different staking faults in helium 4 crystals, whose energy can be lower than previously measured by Junes et al.[1]. Better agreement is found with different theoretical estimates of the stacking fault energy. Our observations support the prediction that edge dislocations are split into partials with a rather wide stacking fault between them. This splitting needs to be considered in future calculations of the binding energy of helium 3 atoms to edge dislocations, also for the understanding of the motion of dislocations including the recent discovery of their critical velocity[2,3,4].
This work is supported by grant ERC-AdG 247258 SUPERSOLID and by a grant from NSERC Canada.
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Section: QS - Quantum solids

Keywords: solid helium, dislocations, plasticity