

Higher Order Far-Field Developments around Lattice Defects

Lattice defects in crystalline materials (e.g., dislocations or point defects) create long-range elastic fields. In this presentation I will show how to rigorously derive a far-field expansion of these fields up to arbitrary high order. The expansion is computable and leaves a remainder describing the defect core structure, which is localised in the sense that it decays with an algebraic rate corresponding to the order of the expansion.