

## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Metallurgy and Material Science - NOC:Defects in Crystalline Solids - Part II

Subject Co-ordinator - Prof. Shashank Shekhar

Co-ordinating Institute - IIT - Kanpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - Dislocation structure in FCC
- Lecture 2 - Partial dislocations in FCC
- Lecture 3 - Thompsons Tetrahedron
- Lecture 4 - Dislocation lock in FCC
- Lecture 5 - Other defects in FCC (Twins and Frank Partial)
- Lecture 6 - Dislocation structure in BCC
- Lecture 7 - Soft core and Hard core for Screw dislocation in BCC
- Lecture 8 - Dislocation structure in HCP
- Lecture 9 - Burger vector and partial dislocation in HCP
- Lecture 10 - Dislocation structure in ionic crystal
- Lecture 11 - Dislocation structure in superlattices
- Lecture 12 - Stacking fault and Kear-Wilsdorf lock in superlattices
- Lecture 13 - Dislocation interaction & Strain hardening
- Lecture 14 - Origin and Nucleation of dislocations
- Lecture 15 - Multiplication of dislocations
- Lecture 16 - Interaction of point defects and dislocation - Solid Solution Strengthening
- Lecture 17 - Cottrell atmosphere and Yield-point phenomenon