

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

NPTEL Video Course - Metallurgy and Material Science - NOC:Thermo-Mechanical and Thermo-Chemical Processes

Subject Co-ordinator - Prof. S. R. Meka

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Thermomechanical Processes
Lecture 2 - Conventional Thermomechanical Processes
Lecture 3 - Non-conventional Thermomechanical Processes
Lecture 4 - Stress and Strain
Lecture 5 - Effect of Strain Rate and Temperature
Lecture 6 - Microstructure Evolution
Lecture 7 - Dynamic Recovery
Lecture 8 - Discontinuous Dynamic Recrystallization
Lecture 9 - Dynamic Recrystallization
Lecture 10 - Continuous Dynamic Recrystallization (CDRX) and Geometrical Dynamic Recrystallization (GDRX)
Lecture 11 - Stereographic Projection
Lecture 12 - Using Stereographic Projection
Lecture 13 - Crystallographic Texture
Lecture 14 - Crystallographic Texture
Lecture 15 - Crystallographic Texture
Lecture 16 - Constitutive Analysis
Lecture 17 - Constitutive Analysis
Lecture 18 - Higher Strain Rate
Lecture 19 - Constitutive Based Model
Lecture 20 - Constitutive analysis
Lecture 21 - Processing Maps
Lecture 22 - Processing Maps
Lecture 23 - Microstructure and Application
Lecture 24 - Processing Maps
Lecture 25 - Processing Maps
Lecture 26 - Equal Channel Angular Pressing (ECAP)
Lecture 27 - Friction Stir Processing (FSP)
Lecture 28 - Accumulative Roll Bonding (ARB)
Lecture 29 - Multi Axial Forging (MAF)

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- Lecture 30 - Severe Plastic Deformation
- Lecture 31 - Overview on Thermo-Chemical treatments
- Lecture 32 - Overview on Thermo-Chemical treatments (Continued...)
- Lecture 33 - Thermodynamic aspects of thermo-chemical treatments
- Lecture 34 - Thermodynamics of Gaseous Nitriding - I
- Lecture 35 - Thermodynamics of Gaseous Nitriding - II
- Lecture 36 - Gaseous Nitriding of Pure Iron
- Lecture 37 - Gaseous Nitriding of Iron based alloys
- Lecture 38 - Duplex and Dual Phase microstructures through nitriding
- Lecture 39 - Alloying element nitride precipitation during nitriding of iron based alloys
- Lecture 40 - Kinetics of gaseous nitriding