

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

NPTEL Video Course - Mechanical Engineering - NOC:Radiative Heat Transfer

Subject Co-ordinator - Prof. Ankit Bansal

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction  
Lecture 2 - Fundamentals of Radiation  
Lecture 3 - Basic Laws of Thermal Radiation  
Lecture 4 - Properties of Plane Surfaces  
Lecture 5 - Radiative Properties of Materials  
Lecture 6 - View Factor  
Lecture 7 - Hottel Crossed String Method  
Lecture 8 - Inside Sphere and Monte Carlo Method  
Lecture 9 - Radiative Heat Exchange Between Black Surfaces  
Lecture 10 - Radiative Heat Exchange Between Gray Diffuse Surfaces  
Lecture 11 - Network Analogy  
Lecture 12 - Solution Methods for Governing Integral Equations  
Lecture 13 - Radiative Heat Exchange between Partially Specular Gray Surfaces  
Lecture 14 - Non-Gray Surfaces  
Lecture 15 - Radiative Heat Transfer in the Presence of Conduction/Convection  
Lecture 16 - Radiative Transfer in Participating Media  
Lecture 17 - Equation of Radiative Transfer  
Lecture 18 - Solution of Radiative Transfer Equation  
Lecture 19 - Radiative Heat Transfer in Cylindrical Media  
Lecture 20 - Approximate Methods-I  
Lecture 21 - Approximate Methods-II  
Lecture 22 - The Method of Spherical Harmonics (PN Approximation) - I  
Lecture 23 - The Method of Spherical Harmonics (PN Approximation) - II  
Lecture 24 - Discrete Ordinate Method (DOM)  
Lecture 25 - Zone Method  
Lecture 26 - Exchange Areas  
Lecture 27 - Monte Carlo Method for Thermal Radiation - I  
Lecture 28 - Monte Carlo Method for Thermal Radiation - II  
Lecture 29 - Radiative Properties of Gases

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

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- Lecture 30 - Atomic and Molecular Spectra
- Lecture 31 - Line Radiation
- Lecture 32 - Spectral Modelling
- Lecture 33 - Wide Band Models
- Lecture 34 - WSGG Model
- Lecture 35 - k-Distribution Model
- Lecture 36 - Radiative Properties of Particulate Media
- Lecture 37 - Combustion and Flame
- Lecture 38 - Solar and Atmospheric Radiation
- Lecture 39 - Concentrated Solar Collector
- Lecture 40 - Experimental Methods