

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

NPTEL Video Course - Physics - NOC:Advanced Atmospheric Physics

Subject Co-ordinator - Prof. M V Sunil Krishna

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Atmospheric Forces and Dynamics - Part 1
- Lecture 2 - Atmospheric Forces and Dynamics - Part 2
- Lecture 3 - Total Derivative (Introduction)
- Lecture 4 - Total Derivative of a Vector in a Rotating Frame of Reference
- Lecture 5 - Momentum Equations and its Vectorial Form in Spherical Polar Coordinates - Part 1
- Lecture 6 - Momentum Equations and its Vectorial Form in Spherical Polar Coordinates - Part 2
- Lecture 7 - Momentum Equations and its Vectorial Form in Spherical Polar Coordinates - Part 3
- Lecture 8 - Total Derivative and Lagrangian
- Lecture 9 - Continuity Equation: Eulerian
- Lecture 10 - Energy Equations - Part 1
- Lecture 11 - Energy Equations - Part 2
- Lecture 12 - Scaling analysis - Part 1
- Lecture 13 - Scaling analysis - Part 2
- Lecture 14 - Scaling Analysis of Governing Equations - Part 1
- Lecture 15 - Scaling Analysis of Governing Equations - Part 2
- Lecture 16 - Scaling Analysis - Part 3, A Tutorial
- Lecture 17 - Scaling Analysis - Part 4, A Tutorial
- Lecture 18 - Introduction of Atmospheric Waves - Part 1
- Lecture 19 - Introduction of Atmospheric Waves - Part 2
- Lecture 20 - Problems based on Total Derivative - Part 1
- Lecture 21 - Problems based on Total Derivative - Part 2
- Lecture 22 - Shallow Water Gravity Waves - Part 1
- Lecture 23 - Shallow Water Gravity Waves - Part 2
- Lecture 24 - Acoustic Waves
- Lecture 25 - Internal Gravity Waves - Part 1
- Lecture 26 - Internal Gravity Waves - Part 2
- Lecture 27 - Internal Gravity Waves - Part 3
- Lecture 28 - Pressure as a vertical coordinate - Part 1
- Lecture 29 - Pressure as a vertical coordinate - Part 2

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

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- Lecture 30 - Pressure as a vertical coordinate - Part 3
- Lecture 31 - General circulation and global winds
- Lecture 32 - Introduction to different types of Fronts
- Lecture 33 - Geostrophic winds
- Lecture 34 - Natural coordinate and Inertial flows
- Lecture 35 - Cyclostrophic winds and Rossby number
- Lecture 36 - Gradient winds
- Lecture 37 - Thermal winds
- Lecture 38 - Problems on thermal winds
- Lecture 39 - Ionosphere introduction (Basics)- Part 1
- Lecture 40 - Ionosphere introduction (Different layers) - Part 2
- Lecture 41 - Ionosphere introduction (Photochemistry) - Part 3
- Lecture 42 - Ionosphere introduction (Recombination) - Part 4
- Lecture 43 - Composite F layer - Part 1
- Lecture 44 - Composite F layer - Part 2
- Lecture 45 - Composite F layer H/He ions - Part 3
- Lecture 46 - The Sun - Earth Energetics and Aurora
- Lecture 47 - Airglows and Aurora
- Lecture 48 - Sun's magnetic field, Formation of Aurora, and Solar cycle
- Lecture 49 - Sun's internal structure, Prominences
- Lecture 50 - Solar wind - Magnetosphere interactions
- Lecture 51 - Solar wind interactions with different planets
- Lecture 52 - Solar wind properties and its interaction with different planets
- Lecture 53 - Static Model of Corona
- Lecture 54 - Parker's Theory of Solar Wind Acceleration - Part 1
- Lecture 55 - Parker's Theory of Solar Wind Acceleration - Part 2
- Lecture 56 - Parker's Theory of Solar Wind Acceleration - Part 3
- Lecture 57 - Parker's Theory of Solar Wind Acceleration - Part 4
- Lecture 58 - Introduction to Space Weather - Part 1
- Lecture 59 - Introduction to Space Weather - Part 2
- Lecture 60 - Introduction to Space Weather - Part 3