

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

NPTEL Video Course - Physics - Special Theory of Relativity

Subject Co-ordinator - Prof. Shiva Prasad

Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - Problem with Classical Physics
- Lecture 2 - Michelson-Morley Experiment
- Lecture 3 - Postulates of Special Theory of Relativity and Galilean Transformation
- Lecture 4 - Look out for a New Transformation
- Lecture 5 - Lorentz Transformation
- Lecture 6 - Length Contraction and Time Dilation
- Lecture 7 - Examples of Length Contraction and Time Dilation
- Lecture 8 - Velocity Transformation and Examples
- Lecture 9 - A Three Event Problem
- Lecture 10 - A Problem involving Light and Concept of Casuality
- Lecture 11 - Problems involving Casuality and Need to Redefine Momentum
- Lecture 12 - Minikowski Space and Four Vectors
- Lecture 13 - Proper Time a Four Scalar
- Lecture 14 - Velocity Four Vector
- Lecture 15 - Momentum Energy Four Vector
- Lecture 16 - Relook at Collision Problems
- Lecture 17 - Zero Rest Mass Particle and Photon
- Lecture 18 - Doppler Effect in Light
- Lecture 19 - Example in C-Frame
- Lecture 20 - Force in Relativity
- Lecture 21 - Force Four-Vector
- Lecture 22 - Electric & Magnetic Field Transformation
- Lecture 23 - Example of EM Field Transformation
- Lecture 24 - Current Density Four Vector and Maxwell Equation

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