

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

NPTEL Video Course - Aerospace Engineering - NOC:Introduction to Launch Vehicle Analysis and Design

Subject Co-ordinator - Prof. Ashok Joshi

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction
Lecture 2 - Course Plan
Lecture 3 - Ascent Mission Basics
Lecture 4 - Force and Geometry Models - 1
Lecture 5 - Force and Geometry Models - 2
Lecture 6 - Idealized Performance
Lecture 7 - Trajectory Under Gravity
Lecture 8 - Impact of Gravity
Lecture 9 - Impact of Drag
Lecture 10 - Curvilinear Motion Concept
Lecture 11 - Constant Pitch Rate Solution
Lecture 12 - Constant Velocity Solution
Lecture 13 - Constant (T/m) Solution
Lecture 14 - Ascent Mission Design
Lecture 15 - Multi-stage Rocket Basics
Lecture 16 - Multi-stage Configuration Basics
Lecture 17 - Multi-stage Solution Basics
Lecture 18 - Multi-stage Problem Definition
Lecture 19 - Optimal Staging Strategy
Lecture 20 - Lagrange Solution
Lecture 21 - Approximate Staging Solution
Lecture 22 - Variant Concept
Lecture 23 - Variant Design Solution
Lecture 24 - Parallel Staging Concept
Lecture 25 - Parallel Staging Benefits
Lecture 26 - Jet Damping and Ballistic Missiles
Lecture 27 - Current Rocket Concepts
Lecture 28 - Launch Widow and SSTO Concepts
Lecture 29 - Reentry Concept

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- Lecture 30 - Ballistic Reentry Solution
- Lecture 31 - Lifting and Other Reentry Modes
- Lecture 32 - Concluding Remarks
- Lecture 33 - Rectilinear Trajectories
- Lecture 34 - Curvilinear Trajectories
- Lecture 35 - Multi-stage Rocket Concept
- Lecture 36 - Optimal Multi-stage Solutions