

List of Technical and Educational Video Titles in Fluid Mechanics and Aeronautics/Aerospace Applications

Fluids

1. Introduction to the Study of Fluid Motion [24 min.]; Pressure Field & Fluid Acceleration [31 min.]; Boundary Layer Control [26 min.]
2. Flow Visualization [30 min.]; Rotating Flows [30 min.]; Stratified Flow [27 min.]
3. Fundamentals of Boundary Layers [26 min.]; Low Reynolds Number Flows [33 min.]; Channel Flow of a Compressible Fluid [30 min.]
4. Fluid Dynamics of Drag [120 min.]
5. Waves in Fluids [34 min.]; Aerodynamics Generation of Sound [52 min.]
6. Surface Tension in Fluid Mechanics [29 min.]; Cavitation [32 min.]; Groundwater & Streamflow [32 min.]
7. Turbulent Flow:
Introductory Notes to Turbulent Flow [35 min.]; Flow Separations & Formation of Vortices [16 min.]; Hydraulic Analogy for Flow Studies [24]
8. Cavitation:
Bubble Collapse Near a Wall in Flowing Systems [15 min.] ; Visual Cavitation Studies of Mixed Flow Pump Impellers [22 min.]
9. Flow Visualization:
Growth of Hydrogen Bubbles During Electrolysis [19 min.]; Visualization Studies by Smoke [30 min.]
10. Microgravity:
Subcooled Boiling in Normal & 0 Gravity [11 min.]; 2-Phase Hg Flow in 0 Gravity [12 min.]; H₂ in 0 Gravity [15 min.]; Bubble Dynamics of Nucleate Boiling in 0 Gravity [18 min.]; Nucleate & Film Boiling from Horizontal & Vertical Wires [16 min.]; Pool Boiling [25 min.]
11. Model Studies: Fluidization & Hydraulics
Bubble Behavior in Froth Flotation [12 min.]; Four Experiments in Hydraulics [17 min.]; Photographic Study of Solid-Gas Fluidization [11 min.]
12. Fluid Mechanics/ONERA I:
Flow Around a Finite Rectangular Wing with Blowing at the Trailing Edge [10 min.]; Testing Axial Supersonic Air Intakes at Mach 1.8 [6 min.]; Visualization of Boundary Layer by Blowing Along a Lowered Flap [5 min.]; Hypersonic Flow Visualization by Interferential Schlieren [11 min.]; Flow Separations & Formation of Vortices [16 min.]; Boundary-Layer Separation Along a Wall [8 min.]
13. Fluid Mechanics/ONERA II:
Hydraulic Analogy for Flow Studies [24 min.]; Physical Study of Vortex Phenomena [18 min.]; Experimental Study of Gliders in Hypersonic Flow [7 min.]
Note: ONERA stands for "Office National d'Études et de Recherches Aérospatiales" (French National Establishment for Aerospace Research)
14. Vortex Flow:
Taylor Vortices in the Presence of an Axial Flow [8 min.]; Vortex Motion & Fluid Turbulence [3 min.]; Periodic Breakdown of Vortices [8 min.]; Thermal Vortex Rings & Plumes [8 min.]
15. Rotating Flow:

Flow in a Long Rectangular Channel [14 min.]; Flow Phenomena of Partially Enclosed Rotating Disks [15 min.]; Dominant Unstable Wavelengths in Cylindrical Interfaces [4 min.]; The Structure & Stability of Turbulent Wall Layers in Rotating Channel Flow [15 min.]; The Effects of System Rotation on Separation, Reattachment & Performance in Two-Dimensional Diffusers [15 min.]

16. Turbulent Boundary Layers:

Turbulence [10 min.]; Wall Region [8 min.]; Effect of Dilute, Drag-Reducing Macromolecular Solution on the Visc. Sublayer of a Channel Flow [10 min.]; Visual of Turbulent Energy Production Near Wall in FD Turbulent B-L on a Flat Plate [8 min.]; Visual Study [6 min.]; Visual Study of Temporal & Spatial Relation of Inner & Outer Layers [12 min.]; Visual of FD Flow Structure on a Flat Plate [22 min.]

Aeronautics & Aerospace

1. 40 Years of Excellence: The History of Major Projects and Events at Astronautics from Its Beginning to the Present [21 min.]; Lockheed Martin
2. The Titan: America's Silent Hero. Because there are worlds to explore and worlds to protect [24 min]
3. On Hercules 45:00
4. The Bacchus Facilities 9:05
5. To Launch a Thousand Ships [22 min.] Production, Testing and Operation of the Space Shuttle Solid Rocket Boosters
THIOKOL V0907R
6. On Challenger [80 min.]
NASA JSC746/CMP204/VJSC960
7. ON TITAN FAILURES
34D-9 April 18, 1986
K-11 August 2, 1993
Approx. Time: 55:00
8. Space Shuttle Challenger Accident Investigation [30 min.]
NASA CMP 204
9. 51-L Pre-Launch Activity Through Launch Failure [15 min.]
NASA VJSC 960
10. Pre-Launch and Launch Report/ Titan IV & Delta II [15 min.]
PAFB OP. NO. A4285/A2817
11. Delta I BSB [11 min.];
Delta II/Polar Sat [8 min.];
Atlas II - SOHO Satellite [30 min.]
12. Mars Global -Solid Rocket Motor [2 min.];
Mars Global Surveyor - Delta [5 min.];
Mars Observer [51 min.]
13. Magnificent Desolation: Our Journeys to the Moon 60:00
14. The Grand Tour 60:00
15. The Space Shuttle 60:00
16. NASA Report to Education, Volume 7 26:14
17. STS-31 Mission Highlights Resource Tape 56:00

18. Voyager Science Summary Tape 28:21
19. And Then There Was Voyager 31:19
20. On Quality: Activities of the NASA Centers 16:00
21. Delta, America's Space Ambassador 23:00
22. Neptune Encounter Highlights 32:38
23. Apollo 13: Houston, We've Got a Problem 28:30
24. NASA Images 11 27:06
25. STS-63 Mission Highlights Resource Tape 60:00
26. Collection of the Movies 23:20
 - 5:00 L.A. The Movie
 - 2:00 Miranda The Movie
 - 6:10 Earth The Movie
 - 5:30 Mars The Movie
 - 4:42 Monterey The Movie
27. On Quality: IG Nuts and Bolts 13:00
28. NASA: The State of the Agency 19:37
29. NASA Images 12 28:07
30. EXPERIMENTAL WEAPONS
V698-25 Approx.Time: 48:00
31. BOMBS, MISSILES & ROCKETS
V698-10 Approx.Time: 48:00
32. SDI: Strategic Defense Initiative
V632-13 Approx.Time: 60:00
33. SDI - Star Wars
Cat. No. 7290 Approx.Time: 30:00
34. FUTURE WEAPONS
V698-13 Approx.Time: 48:00
35. NIGHTSTALKERS
The Complete Stealth Story 60:00
36. X-PLANES 60:00
37. FIGHTERS
V698-01 Approx.Time: 48:00
38. WINGS OF GOLD
US Navy's Fiercest Fighting Planes 60:00
39. WINGS OF SILVER
USAF's Fiercest Fighting Planes 60:00
40. HOT FLYING 60:00
41. AIRSHOW 60:00
42. Thunder in the Gulf 60:00
43. Air Power and Missiles Declassified 37:00