

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

NPTEL Video Course - Physics - Nuclear Physics: Fundamentals and Applications

Subject Co-ordinator - Prof. H.C. Verma

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Brief Overview of the course

Lecture 2 - Nuclear Size

Lecture 3 - Nuclear Size (Continued...)

Lecture 4 - Nuclear Size (Continued...)

Lecture 5 - Semi empirical Mass Formula

Lecture 6 - Semi empirical Mass Formula (Continued...)

Lecture 7 - Semi empirical Mass Formula (Continued...)

Lecture 8 - Semi empirical Mass Formula (Continued...)

Lecture 9 - Semi empirical Mass Formula (Continued...)

Lecture 10 - How are Neutron stars bound

Lecture 11 - Deuteron

Lecture 12 - Deuteron (Continued...)

Lecture 13 - Deuteron (Continued...)

Lecture 14 - Scattering of nucleons

Lecture 15 - Low energy n-p scattering

Lecture 16 - Theories of nuclear forces

Lecture 17 - Shell model

Lecture 18 - Shell model (Continued...)

Lecture 19 - Shell model (Continued...)

Lecture 20 - Shell model (Continued...)

Lecture 21 - Shell model (Continued...)

Lecture 22 - Collective models

Lecture 23 - Vibrational and Rotational levels

Lecture 24 - Radioactivity, Alpha Decay

Lecture 25 - Alpha decay (Continued...)

Lecture 26 - Beta decay

Lecture 27 - Beta decay (Continued...)

Lecture 28 - Beta decay (Continued...)

Lecture 29 - Gamma decay

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- Lecture 30 - Nuclear Reactions
- Lecture 31 - Nuclear reaction (Continued...)
- Lecture 32 - Nuclear reaction (Continued...)
- Lecture 33 - Nuclear Fission basics
- Lecture 34 - Nuclear fission of uranium
- Lecture 35 - Nuclear Fission Reactor
- Lecture 36 - Nuclear Energy Programme of India
- Lecture 37 - Nuclear Fusion
- Lecture 38 - Nuclear fusion (Continued...)
- Lecture 39 - Thermonuclear fusion reactors
- Lecture 40 - Fusion reactions in Stars and stellar neutrinos
- Lecture 41 - Nucleosynthesis of elements in Stars
- Lecture 42 - Mossbauer Spectroscopy
- Lecture 43 - RBS, PIXE, NAA, Summary