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Title : Science course unit 31.
clock title: The ucleus
Contributors . M.J. Pentz
G.C. Fletcher
A.J. Walton.

CU S100/31
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Form VTR
539.7

Producer; Nat Taylor — 1st TX:26.9.71.

Seq.	Time	Footage	Sequence List	Sound Cue
	1'22"		M.J. Pentz introduces the programme with a short discussion on radio-active particles.	
			G.C. Fletcher with a radio-active source, a Geiger counter, and a rate meter. (source is ∝ particles) He demonstrates by holding the radio-active source near the Geiger counter. The rate meter indicates the presence of radio-activity and measures the average count per second. Fletcher places a sheet of paper between source and Geiger counter.	539.7522 (∝)
1/	3'01"		Radiation is almost cut off.	539.774
	3'29"		Fletcher places a beta radiation (β) source under the counter. This time paper does not cut off the radiation but a thin sheet of aluminium does.	539.7523 (β)
	4'06"		Fletcher place a gamma radiation (γ) source under the counter. Not even a thin lead shield affects the radiation a great deal.	539.7524 (γ)
	4'50"		Fletcher sums up the above experiments. He has devised a crude radiation classification based on different abilities to penetrate various materials.	with a magnet.
	8'55"		Fletcher performs an experiment to show that β radiation can be deflected with a magnet and is therefore charged. He explains the apparatus used in the demonstration while doing the experiment. The experiment can determine the charge of the radia radiation and how massive it is.	you may remember.....
2	10'42"		Fletcher uses a cloud chamber in a demonstration to detect radiation. He puts thoron gas into a chamber. Cloud chamber tracings seen. (∝ particles)	539.777 applications of radio activity.
	11'43"		Fletcher shows and explains the apparatus required for a demonstration of back-scattering. He uses a diagram to explain the demonstration.	Here's a Geiger counter..

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Continuation

Seq.	Time	Footage	Sequence List	Sound Cue
3	13'33"		Fletcher measures the back scatter of beta radiation from aluminium. He explains the applications of back scatter technique in industry.	539.754
	15'15"		Fletcher explains the neutron activation experiement. He measures radiation of two 6p coins of different metal composition which have been exposed to neutron radiation.	539.7213072<u>4</u> than the just one
	15'37"		Pentz introduces animated film which will explain process of nuclear fission.	well. this is just....
4	17'37"		Animated film explains process of nuclear fission. Commentary by M.J. Pentz.	539.762
	21'30"		A.J. Walton explains his experiment for finding an approximate size of the aluminium nucleus. Walton explains the apparatus set-up and function.	539.77
	24'02"		Walton performs the experiment to measure nuclear diameter.	
5	24'13"		Credits	