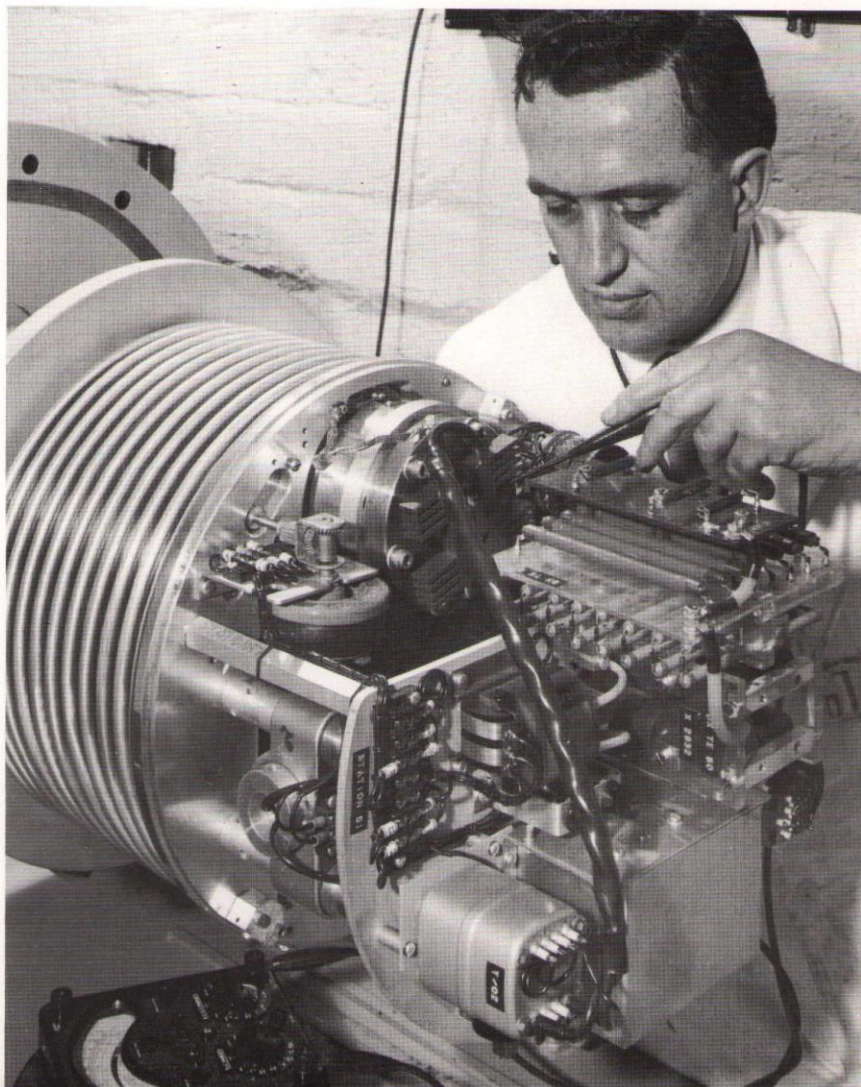


## Electrons, protons and gamma rays at up to 0.4 MeV

The Materials Development Division Van de Graaff accelerator provides a versatile facility for irradiation with electrons, protons, H<sub>2</sub> + molecules or gamma rays. A wide range of particle energies and radiation intensities can be provided; with electrons the current density can be reduced to a few pico-amperes per sq. cm. by two-stage scattering equipment. High speed beam switching is available with electrons, giving switch-on or switch-off times of less than 10ns and allowing transient and lifetime measurements to be made. Optical absorption and luminescence equipment is available for use with the accelerator, as are cryogenics which allow sample temperatures to be controlled between ~ 5K and above room temperature.



**Energy range: 70 keV–400 keV.**

**Beam intensities available:**

	Minimum intensity	Maximum current or intensity
Electrons	10pA cm <sup>-2</sup>	100μA
Protons	0.2μA cm <sup>-2</sup>	100μA
H <sub>2</sub> + molecules	0.2μA cm <sup>-2</sup>	30μA
Gamma photons	zero	5kR/hr.

**Timing facilities**

Switch-on or switch-off times < 10ns. Radiation times metered from 100ns upwards.

Enquiries regarding the use of this accelerator should be made to:

Dr. A.E. Hughes  
Materials Development Division  
Building 393  
AERE Harwell Oxfordshire  
Telephone: Abingdon (0235) 24141  
Extension 4167