

GENEALOGY DATABASE ENTRY

©Vera V. Mainz and Gregory S. Girolami 1998

Chadwick, James

1891 - 1974

DEGREE: MS (physics)

DATE: 1913

PLACE: Manchester

TEACHER/RESEARCH ADVISOR: Rutherford

Nobel Prize 1935; discovered the neutron and first accurately to determine its mass; studied absorption of gamma rays by atoms and nuclei and devised first accurate measurements of gamma-ray activity; used alpha particle scattering to prove that the nuclear charge of an atom is the same as its atomic number; studied transmutation of elements via absorption of alpha particles or slow neutrons; demonstrated production of positron/electron pairs from gamma-rays; first to determine accurately the neutron cross-section of ^{235}U ; co-founder of British atomic bomb project and head of British scientists working on the Manhattan project.

1. *Biog. Mem. Fell. Roy. Soc.* **1976**, 22, 11-70.
2. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 17, p143-148.
3. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p729-730.