

GENEALOGY DATABASE ENTRY

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Bohr, Niels Henrik David

1885 - 1962

DEGREE: PhD

DATE: 1911

PLACE: Copenhagen

TEACHER/RESEARCH ADVISOR: Christiansen

Nobel Prize in Physics in 1922; created the theory of atomic constitution, pointing out that the nuclear model of the atom implied a sharp separation between the chemical properties (ascribed to the peripheral electrons), and the radioactive properties (ascribed to the nucleus); postulated isotopes - atomic nuclei of the same charge but different mass; recognized the relationship between the atomic number and the number of electrons; analyzed the ionizing process (caused by α particles as they pass through a material) and expressed the rate of energy loss in terms of the velocity; postulated the existence of stationary states in an atomic system, whose behavior could be described via classical mechanics, and that the transition from one stationary state to another is a non-classical process, accompanied by the emission or absorption of one quantum of homogeneous radiation; Bohr's theory of the periodic system of the elements led directly to the discovery of element 72, hafnium, by Bohr's co-workers.

1. Niels Bohr. *His Life and work as seen by his colleagues and friends*; Rozental, S., Ed.; John Wiley and Sons: 1967; p11-93.
2. Moore, R. *Niels Bohr: The Man, His Science, and the World They Changed*; Alfred A. Knopf: 1966; p6-30.
3. Robertson, P. *The Early Years. The Niels Bohr Institute 1921-1930*; Akademisk Forlag: 1979.
4. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p239-254.
5. *Physics Today* **1963**, 16(10), 21-64.
6. *Proc. Phys. Soc. London* **1961**, 78, 1083-1115.