

KLEIN TREE #2

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Julius Pluecker
(Marburg, 1824)

Klein bottle

Carl L.F. Lindemann
(Erlangen, 1873)
proof that pi is transcendental **(1882)**

Sommerfeld model of the atom **(1916)**

Pauli exclusion principle **(1924)**
Pauli principle **(1940)**
Physics Nobel 1945

Heisenberg uncertainty principle **(1925)**; creation of quantum mechanics; discovery of allotropic forms of hydrogen
Physics Nobel 1932

Heitler-London treatment **(1927)**
London dispersion forces **(1930)**
London superconductivity equations **(1935)**

Hans Albrecht Bethe
theory of nuclear reactions; energy production in stars
Physics Nobel 1967

Lande g factor **(1921/3)**
Wentzel-Kramers-Brillouin-Jeffreys method **(1926)**

Wilhelm Lenz
(Munich, 1911)

Johannes H.D. Jensen
Discovery of nuclear shell model **(1949 - 55)**
Physics Nobel 1963
Ising model **(1925)**

Max L.H. Delbrueck
Discoveries concerning replication mechanism and genetic material of viruses
Physiology & Medicine Nobel 1969

Isidor I. Rabi
(Columbia, 1927)
Physics Nobel 1944

Sin-Itiro Tomonaga
Quantum electrodynamics
Physics Nobel 1965

Bloch equations **(1946 - 56)**
Bloch $T^{3/2}$ law for magnetization;
Bloch-Siegert effect **(1940)**,
NMR **Physics Nobel 1952**

Renner-Teller effect **(1934)**
Jahn-Teller effect **(1936/7)**
Teller-Redlich product rule **(1935)**
Gamow-Teller selection rule **(1936)**, **Brunauer-Emmett-Teller (BET)** method **(1938)**
principle of least motion **(1938)**

Haldan K. Harline
Discoveries concerning primary physiology and chemical visual processes of the eye
Physiology & Medicine Nobel 1967

Leo J. Rainwater
theory of the structure of the atomic nucleus
Physics Nobel 1975

Leon N. Cooper
BCS theory **(1957)**
Physics Nobel 1972

Karl Manne Georg Siegbahn
X-ray spectroscopy
Physics Nobel 1924

Hannes O.G. Alfven
Magneto-hydrodynamics; plasma physics
Physics Nobel 1970

Bernard T. Feld
(Columbia, 1945)

Norman F. Ramsey
(Columbia, 1940)
Physics Nobel 1989

Martin L. Perl
(Columbia, 1955)
Physics Nobel 1995

Burtin Richter
(MIT, 1956)
Physics Nobel 1976

Daniel Kleppner
(Harvard, 1959)

Samuel C.C. Ting
(Michigan, 1962)
Physics Nobel 1976

Julian Schwinger
(Columbia, 1939)
Physics Nobel 1965

Polykarp Kusch
(Illinois, 1936)
Physics Nobel 1955

William D. Phillips
(MIT, 1976)
Physics Nobel 1997

Carl E. Wieman
(MIT; Stanford, 1977)
Physics Nobel 2001

David E. Pritchard
(Harvard, 1968)

Eric A. Cornell
(MIT, 1990)
Physics Nobel 2001