

Timeline: “Modern” Physics

450-300 BC	Leucippus, Democritus, Epicurus	. . . Greek Atomists :
335 BC	Aristotle	continuous elements (earth, air, fire, water)
300 BC	Zeno of Cition (founder of Stoics)	popularizes Aristotelian view.
60 BC	Titus Lucretius Carus of Rome	epitomizes “ Atomist ” philosophy.
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1879	Josef Stefan [expt]	power emitted as blackbody radiation $P = A\sigma T^4$
1884	Ludwig Boltzmann [theor]	explains Stefan’s empirical law
1885	Johann Jakob Balmer [expt]	empirical description of line spectra emitted by H atoms
1890	Johannes Robert Rydberg [expt]	
1893	Wilhelm Wien [expt]	blackbody spectrum displacement law : peak wavelength varies as T^{-1}
1895	Wilhelm Conrad Roentgen [expt]	discovers X-rays
1897	Joseph John Thomson [expt]	measures boldmath q/m of the electron
1900	Max Planck [theor]	derives correct blackbody radiation spectrum
1902	Philipp E.A. von Lenard [expt]	measures photoelectric effect
1905	Albert Einstein [theor]	explains photoelectric effect
1905	Albert Einstein [theor]	publishes Special Theory of Relativity (STR)
1905	Albert Einstein [theor]	explains Brownian motion (gives mass of atoms!)
1905	Ernest Rutherford [expt]	performs first alpha-scattering experiments at McGill Univ. (Canada)
1907	Robert A. Milliken [expt]	measures electron charge (now know both q_e and m_e).
1912	William (H. & L.) Bragg [expt]	shows that X-rays scatter off crystal lattices
1913	Hans Geiger & Ernest Marsden [expt]	confirm Rutherford scattering results at Univ. of Manchester (U.K.)
1913	Niels Henrik David Bohr [theor]	pictures H atom with quantized angular momentum
1916	Albert Einstein [theor]	publishes General Theory of Relativity (GTR)
1916	Robert Andrews Milliken [expt]	confirms photoelectric effect in detail
1922	Arthur Holly Compton [expt]	scatters X-rays off electrons
1924	Louis Victor de Broglie [theor]	hypothesizes “ matter waves ” with $\lambda = h/p$
1925	Wolfgang Pauli [theor]	formulates his exclusion principle
1925	Max Born & Werner Heisenberg [theor]	introduce quantum mechanics
1926	Erwin Schroedinger [theor]	develops a nonrelativistic wave equation for quantum mechanics
1927	Werner Heisenberg [theor]	formulates his uncertainty principle
1928	Paul A.M. Dirac [theor]	develops relativistic wave equation for electrons & predicts antimatter
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