

Historical timeline of scientific descriptions of light and matter – B.P. Anderson

Wave nature of light	Particle nature of light	Particle nature of matter	Wave nature of matter
<p>1680 - Huygens</p> <p>1800 – Young (diffraction, interference)</p> <p>1818 – Fraunhofer (grating), Arago, Fresnel (diffraction)</p> <p>1820 – Young, Fresnel (light as trans. wave), Arago (Poisson's spot)</p> <p>1860 – Maxwell (EM eqs)</p>	<p>~1000 - Alhazen</p> <p>1670 - Newton</p>	<p>1808 – Dalton (theory of matter)</p>	
	<p>1888 – Hertz (disc. photoelect effect)</p>	<p>1869 – Mendeleev (per table)</p>	
	<p>1901 – Planck</p> <p>1905 – Einstein (quantized rad., PE effect, spec relativity)</p> <p>1909 – Einstein (statistical fluctuations of light properties)</p>	<p>1895 – JJ Thomson (disc. electron)</p> <p>1909 – Rutherford (disc. nucleus), Millikan, Fletcher (charge of elect.)</p> <p>1912 – Braggs (x-ray diffraction)</p>	
	<p>1917 – Einstein (theory of radiation)</p> <p>1923 – Compton</p> <p>1924 – Bose (quantum statistics)</p>	<p>1913 – Bohr (atom model)</p> <p>1923 – Pauli (exc. princ)</p> <p>1924, 1925 – Einstein (BE distrib, BEC, atom diffraction proposed)</p> <p>1925 – Uhlenbeck, Goudsmit (electron spin)</p> <p>1925 – Heisenberg, Jordan, Born (QM)</p> <p>1926 – Schrodinger (wave eq), Fermi, Dirac (quantum statistics)</p> <p>1927 – Heisenberg (uncert. princ.)</p> <p>1927 – Heisenberg, Bohr (QM interp)</p>	<p>1922-24 – deBroglie (matter wave hypothesis)</p>
		<p>1927 – Davisson, Germer, Thomson (elect diffrac)</p>	
		<p>1928 – Dirac (rel wave eq)</p>	
<p>1930 – Dirac – quantum electrodynamics, formal theory of QM and wave mechanics</p>			
		<p>1932 – Anderson (disc positron), Chadwick (disc neutron)</p> <p>1935 – Heisenberg – theory of nuclear structure</p>	<p>1930 – Estermann, Stern (Helium atom diffraction)</p> <p>1936 – Mitchell, Powers (neutron diffraction)</p>