

## Rise of Quantum Mechanics Time-Line

- 1855 Maxwell's equations predicts EM waves
- 1886 Hertz's radio waves unifies EM waves and optics
- 1886 My house was built
- 1887 Hertz first sees electrons emitted from a cathode due to UV light
- 1887 Michelson-Morley experiment null result for ether
- 1893 Wien's law for blackbody spectral density
- 1895 Röntgen discovers X-rays
- 1896 Mme. Curie discovers radioactivity
- 1896 Zeeman effect
- 1897 Thompson discovers electron
- ??? Lorentz describes interaction between electron and EM waves
- 1900 Rayleigh-Jeans approximation for blackbody spectral density
- 1900 Plank resolution of blackbody problem by interaction between matter and radiation only occurring in quanta of  $h\nu$
- 1902 Lenard discovers photoelectric effect
- 1905 Einstein resolves photoelectric effect by quanta of light (solves blackbody also)
- 1905 Einstein special relativity rejects absolute time
- 1910 Millikan's oil drop experiment quantifies elementary electric charge
- 1911 Rutherford describes atomic nucleus with electron cloud
- 1912 Willson cloud chambers see trajectories of charged particles
- 1912 von Laue confirms wave nature of X-rays by scattering off crystals
- 1913 Geiger counter
- 1913 Bohr's quantum theory of spectra (quantized angular momentum)
- 1914 Millikan photoelectric experiment confirms Einstein using sodium
- 1914 Meyer and Gerlach confirm photoelectric effect on metallic dusts
- 1922 Compton scattering photons off electrons confirms particle nature of light
- 1922 Stern-Gerlach experiment demonstrates space quantization
- 1923 Bohr's Correspondence principle
- 1924 Pauli's exclusion principle
- 1925 de Broglie postulates matter waves
- 1926 Schödinger's wave equation
- 1927 Davisson-Germer experiment confirms de Broglie matter waves by scattering electrons off of crystals
- 1927 Born statistical interpretation of wavefunction
- 1928 Dirac relativistic wave equation and prediction of positron