

Radio waves were first predicted by mathematical work done in 1867 by Scottish mathematical physicist James Clerk Maxwell.[4] His mathematical theory, now called Maxwell's equations, predicted that a coupled electric and magnetic field could travel through space as an "electromagnetic wave". Maxwell proposed that light consisted of electromagnetic waves of very short wavelength. In 1887, German physicist Heinrich Hertz demonstrated the reality of Maxwell's electromagnetic waves by experimentally generating radio waves in his laboratory,[5] showing that they exhibited the same wave properties as light: standing waves, refraction, diffraction, and polarization. Italian inventor Guglielmo Marconi developed the first practical radio transmitters and receivers around 1894–1895. He received the 1909 Nobel Prize in physics for his radio work. Radio communication began to be used commercially around 1900. The modern term "radio wave" replaced the original name "Hertzian wave" around 1912