Wireless Telegraphic Communications

Radio Inquiry Unit Information Theory Unit

Nobel Lecture, December 11, 1909

In 1909, Guglielmo Marconi was awarded the Nobel Prize for his contribution to the development of wireless telegraphy. Here you will find a link to the lecture which includes Marconi's explanation of how he turned Hertzian waves into a wireless communications technology, in competition with cable telegraphy and uniquely for ship-to-shore and ship-to-ship communications.

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GUGLIELMO MARCONI

Wireless telegraphic communication

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The discoveries connected with the propagation of electric waves over long distances and the practical applications of telegraphy through space, which have gained for me the high honour of sharing the Nobel Prize for Physics, have been to a great extent the results of one another.

The application of electric waves to the purposes of wireless telegraphic communication between distant parts of the earth, and the experiments which I have been fortunate enough to be able to carry out on a larger scale than is attainable in ordinary laboratories, have made it possible to investigate phenomena and note results often novel and unexpected.

In my opinion many facts connected with the transmission of electric waves over great distances still await a satisfactory explanation, and I hope to be able in this lecture to refer to some observations, which appear to require the attention of physicists.

In sketching the history of my association with radiotelegraphy, I might mention that I never studied physics or electrotechnics in the regular manner, although as a boy I was deeply interested in those subjects.

I did, however, attend one course of lectures on physics under the late Professor Rosa at Livorno, and I was, I think I might say, fairly well acquainted with the publications of that time dealing with scientific subjects including the works of Hertz, Branly, and Righi.

At my home near Bologna, in Italy, I commenced early in 1895 to carry out tests and experiments with the object of determining whether it would be possible by means of Hertzian waves to transmit to a distance telegraphic signs and symbols without the aid of connecting wires.

After a few preliminary experiments with Hertzian waves I became very soon convinced, that if these waves or similar waves could be reliably transmitted and received over considerable distances a new system of communication would become available possessing enormous advantages over flashlights and optical methods, which are so much dependent for their success on the clearness of the atmosphere.

My first tests were carried out with an ordinary Hertz oscillator and a

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