

these, placed between them and the source, that particular wave length proper to these interposed resonators should be absorbed and no other, thus the sparks should cease in one and not in the other. If, on the other hand, these resonators should absorb all the energy radiated, as held by Hertz and others, then the sparks should cease in both at the same time. A number of rectilinear resonators were made and attached to a thin board. Six of these were of a total length of 1m. each, and were placed 7.5cm. apart, between these a number of shorter ones were placed, the shortest of which was 20cm. in length. When this board was held flatwise in the path of the waves sent out by the mirror all the resonators gave sparks, but when it was turned edgewise so that one was behind the other only the three or four long ones nearest the source gave sparks and the short ones seemed to be also slightly affected, the sparks being weaker but not cut off. If now, beginning with the resonator nearest the source, the spark gaps were lengthened so that sparks could not pass, the sparking in those farthest from the source was increased. The sparks in the short resonators were very capricious, frequently ceasing altogether and then suddenly starting up they would continue vigorously for a long time, though no change had been made in the apparatus or surroundings. This behaviour makes the results indefinite to a large extent, however the experiments seemed to prove that the oscillator emitted waves of all lengths, and that to obtain satisfactory results for the velocity of propagation of these waves it is necessary to obtain the period of the resonator rather than that of the vibrator. Several turns of wire were used as a resonator in place of the single turn, but trials in different ways gave no results, the sparks ceasing to pass in every case where more than one turn was used. An extended bibliography was prepared but has been omitted inasmuch as the whole ground has been so thoroughly covered by recent publications, the most important, next to Hertz's own work, being that by Prof. J. J. Thomson entitled "Recent Researches in Electricity and Magnetism."

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