

Wireless power transmission technology

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The technology of wireless power transmission is truly revolutionary for the current society, because it is already beginning to be widely used today. Although the first large-scale experiments were conducted by Nikola Tesla just over a hundred years ago, this technology has only now moved to a more global level. And we can say with confidence that in the near future it will become one of the fundamental ones in the process of direct development. Nowadays, wireless transmission of energy is widely considered in electronics area. For instant, if we want to charge kitchen equipment, the easiest way to do this is to use inductors. The principle here is very simple. 2 coils are taken and placed close to each other. One of them is powered. The other plays the role of a receiver.

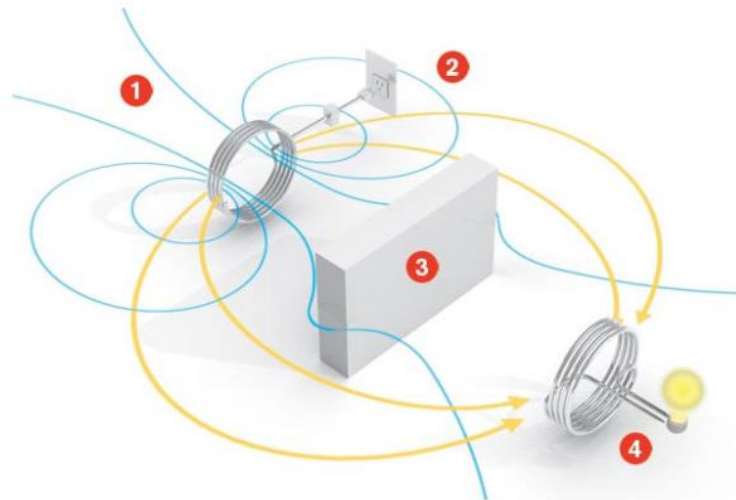


Fig. 1. Resonant coil connected to the socket (1); power socket (2); obstacle (3); resonant coil connected to a light bulb (4)

When the current in the power supply is adjusted or changed, the magnetic flux on the second coil also automatically changes. As the laws of physics say, an EMF will arise and it will directly depend on the rate of change of this flow.

It would seem that everything is simple. But the flaws spoil the whole rainbow picture. There are three cons like: low power, short distance, low efficiency. These main disadvantages are the questions that scientists want to solve.

Reference

[1] André Kurs, Aristeidis Karalis, Robert Moffatt and others. *J. Science*, 317 (2017), 83-86.