Recent experiments have found that magnetic fields can also attract shredded paper
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Abstract: We have always believed that only charge can attract light and small objects. In recent experiments, however, I discovered that permanent magnets and electromagnets can attract light and small objects without charge. This can lead us to rethink the phenomenon of frictional electrification.

Keywords: charge; paper box; electromagnet; permanent magnet

introduction:
Reference Study on Internal Mechanisms of Charge, Current, Electric Field and Magnetic Field viXra: 1705.0201 [1], the author predicts that even if there is no charge, the magnet can attract shredded paper, that is, to attract light and small objects is not unique to the charge. So I designed the experiment to verify the author's prediction, and now publish the experimental equipment, methods, steps, and results here.

1: Experiment 1

Experimental goal: To verify that strong magnetic fields (electromagnets) can attract debris

Experimental equipment: 220V AC power supply, regulator, copper coil, shredded paper, electromagnetic radiation measuring instrument.

Experimental procedure: Connect the power supply, voltage regulator and copper coil, sprinkle shredded paper under the copper coil, place the electromagnetic radiation meter next to it; turn on the power, control the current through the voltage regulator, and observe whether the coil can attract shreds. The swarf (because the coil can generate a strong magnetic field after being energized) records the reading on the electromagnetic radiation meter to determine the intensity of the magnetic field radiation.

Experimental results: After the power is turned on, when the voltage is 5V and the current is 0.5A, I begin to observe the experimental phenomenon that the coil attracts the shredded paper, and the electromagnetic radiation meter also starts to give the reading; meanwhile, when the voltage and current increase, the attraction The more obvious the experimental phenomenon of shredding, the greater the field strength measured by the field-strength meter. The numerical range is 0-8181 w/cm^2.
**Experimental significance**: According to traditional theory, only the existence of an electric charge can produce experimental phenomena that attract shredded paper.

It has been verified that, even if there is no charge, magnetic fields can attract shredded paper, which completely subverts our understanding.

2: *Experiment 2*

**Experimental goal**: To verify whether large magnets can attract shredded paper or other small objects

**Experimental equipment**: a small magnet and a large magnet, shredded paper, matches, apples, kiwifruit, tomatoes, string, etc.

**Experimental procedures and experimental phenomena**:

A: When we use small magnets near shredded paper, hanging apples, hanging kiwi fruit, hanging tomatoes and burning match heads. They do not reflect on small magnets.

B: When we use a big magnet to get close to shredded paper, fly apples, hang kiwis, hang tomatoes and burnt matches. We can observe that the magnet attracts shredded paper and attracts the burning match head. Will attract and exclude hanging apples, hanging kiwi, hanging tomatoes. (I will provide an experimental video as a reference for the review)

**Experimental results**: Based on the above experiments, I found that permanent magnets can also attract light and small objects.

3: **Summary**

Through the above two experiments, I discovered that electromagnets and permanent magnets can attract light and small objects without charge. This can lead us to rethink the phenomenon of frictional electrification.

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**References**: Study on Internal Mechanisms of Charge, Current, Electric Field and Magnetic Field

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