Not a "one-way" magnetic force

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1. Classical explanation

Finally, I have found the explanation for the "One-way magnetic force" I found http://pengkuanem.blogspot.com/2013/10/one-way-magnetic-force.html. In fact it is the position of the test coil that prevents it to rotate. In Figure 1, I have drawn the test coil in a horizontal magnetic field ***B***. The forces are acted on the coil's horizontal side and are vertical.

In the case of part (1), the force ***F*** is downward pointing, the coil is in its stable position and cannot rotate about its axel. In the case of part (2), the current is reversed and the force is upward pointing. In this position, the coil is not stable. It will rotate until it reaches its stable position, that is, it will rotate 180° and reach the position of part (1).

So, when the coil does not rotate, it is not because the force is zero, but because it is in its position of equilibrium. When it rotates, it is not because the force is great, but because its position is unstable.

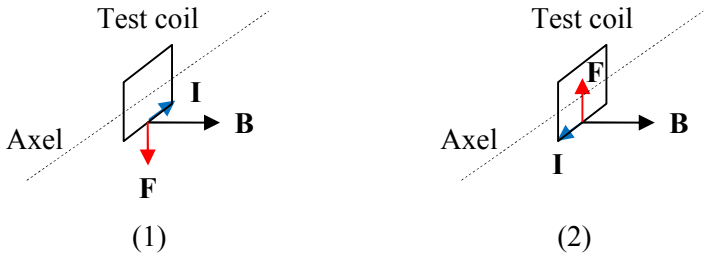

Figure 1

The lines of magnetic field are not completely horizontal (see Figure 2), but experimental error may be the cause of the stillness of the test coil in the position of part (1).

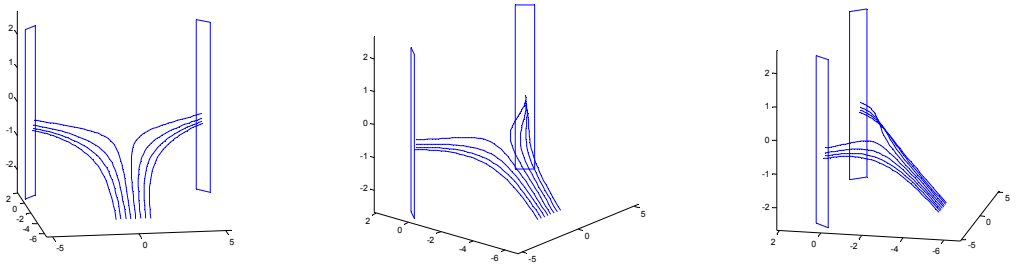

Figure 2 Magnetic field lines of the 2 magnets

2. Why have I done this experiment?

I have done this experiment in search of another experimental proof of the perpendicular action effect explained in "Lorentz perpendicular action experiment and Lorentz force law" http://pengkuanem.blogspot.com/2013/02/lorentz-perpendicular-action-experiment.html , of which I

am not satisfied. When I tried other positions of magnets, I have found that the position in "One way magnetic force" makes the test coil rotate strongly in one direction and stay still in the opposite direction. As this resemble to what I have thought about the "Magnetization of wire", I was too glad to think it is an experimental manifestation of this effect and published quickly the experiment.

Although the perpendicular action shows up by the rotation of the test coil (Figure 3) when it makes an angle of 90° with its original position in part (1) of Figure 1 where it does not rotate, it is still a mistake of mine to draw the quick conclusion for "Magnetization of wire". This is why I have hurried up to write the present article to inform you and to avoid leading my readers into error further.

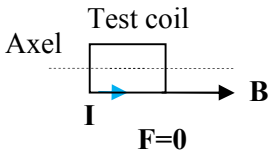

Figure 3

3. Comment

In the future I will think twice before I publish something. I should have figured out this explanation before posting it. But my mind is stuck to this idea since I do not discuss with other people. Why have not I have a discussion with somebody else? Because I do not have this somebody else. I have found no-one who support my idea, I do not have laboratory to test my theory. So, the only way I can have some reaction is to publish my findings on the internet. And yes, my publication makes me think and has really helped me in figuring out what is going on.

So, I am showing the way I do my research. I make a hypothesis about my theory; I try to find an experimental manifestation of this hypothesis by taking a direction in my experimentation. One day I find something, the other days nothing or worse, some error.

Like any normal research work, I make some steps forward some time and several steps backward in other time. Fortunately my forward steps are strong. The "Parallel action experiment" http://pengkuanem.blogspot.com/2013/06/current-and-parallel-action.html and the "Macroscopic Aharonov–Bohm effect experiment" http://pengkuanem.blogspot.com/2013/06/macroscopic-aharonovbohm-effect.html stand firmly, showing solid non Lorentzian effect of magnetic force.