THE FORCE BETWEEN TWO PARALLEL CURRENT CARRYING CONDUCTORS

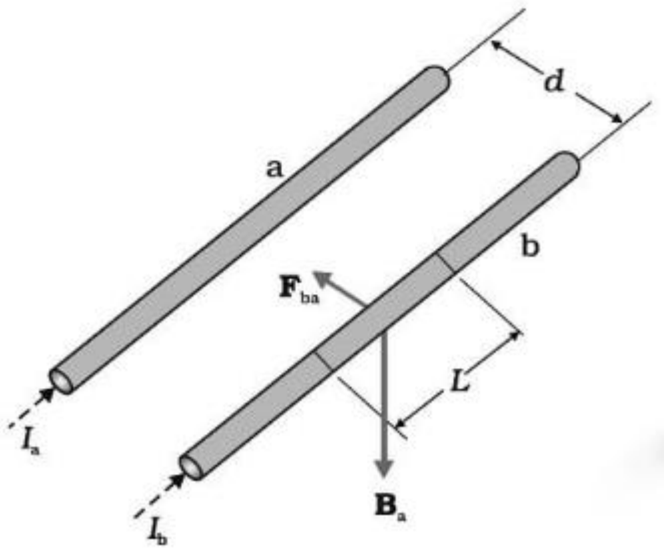
When the parallel strings turn in opposite directions, the strings push each other. The wires pull on each other when the current in the wire flows in the same direction. And they chase after each other when the currents are opposite.

We know that the power per unit length between two compatible current carrying cables is provided by Fl = 2μ$I_1I_2$4πr. when I_1 = current flows to conductor 1, r = distance between conductors 1 and 2. I_2 = currently flowing in conductor 2. placing I_1 = I_2 = 1A and placing the distance between them

r = 1m we get- Fl = μ4π × 2 × 1 × 1.

Therefore, in this case the two forces work in opposite directions. So we can say that they are disgusting. We can therefore conclude that if the current in the two conductors is set parallel to each other, the power acting on the conductor will be negligible.

Consider two straight continuous conductors, distance d separately, that carry currents upward, Ia and Ib, respectively, as shown in the figure



The two parallel conductors currently in charge will exert a powerful force on each other, if their currents are in the same direction.

The first wire will create a magnetic field, Ba , which is in the shape of a circle centered on a wire. In the case of the second phone, the magnetic field B1 is on the page, and the size is:

$$B_a = \frac{\mu_0 I_a}{2\pi d}$$

As the second wire holds the current, I_2 upwards, it will receive a magnetic field, F_{ba}, from the magnetic field, B_a, facing left (as shown in the figure and determined from the right-hand rule). The magnetic field, F_{ba}, used in the longitudinal section, l, on the second wire has a given size:

$$F_{ba} = I_b L B_a$$

$$F_{ba} = \frac{\mu_0 I_a I_b}{2\pi d} L$$

where we used the fact that the angle between $\vec{I}$ and $\vec{B}$ is 90∘. We expect, from Newton's Third Commandment, that equal and different powers should be exercised in the first telephone. Indeed, the second call will create a magnetic field, $\vec{B}$ 2, which is off-page in place of the first phone, the size of:

$$B_b = \frac{\mu_0 I_b}{2\pi d}$$

This leads to a magnetic field, $\vec{F}$ 1, applied to the first wire, pointing to the right (from the right hand rule). In the longitudinal phase, the first call, the magnetic field from the magnetic field, B_b, is:

$$F_{ba} = I_b L B_a$$

$$F_{ba} = \frac{\mu_0 I_a I_b}{2\pi d} L$$

really with the same power and power applied to the second phone. Therefore, when two parallel wires carry the wires in the same way, they use the same and opposite strength that attracts each other.

Press between the conductor holding the same two current

We have learned about the existence of a magnetic field due to the current operator and the Biot – Savart law.

We also learned that an external magnetic field exerts power to the current conductor and the Lorentz power formula that controls the system.

Thus, from these two studies, we can say that any two conductors holding current when placed next to each other, will apply magnetic force to each other. In this section, we will learn more about this case in more detail.

Press between the conductor holding the same two current

Consider the diagram shown in the diagram above. Here, we have two parallel conductor currents, separated by a d. From the information we obtained earlier, we can say that conductor 2 encounters the same magnetic field in all directions by its length due to conductor 1. The magnetic field direction is shown in the figure and is obtained using the sixth law of feed. The direction of the magnetic field, as we can see, is turned upside down because of the first driver.

What is Ampere?

Ampere is named after French Physicist and mathematician Andre-Marie Ampere. One current ampere represents a single coulomb electric charger, i.e. 6.24 × 1018 charging carriers, which travel in one second. In other words, an ampere is a current that is generated by the power of a single voltage operating at a single ohm resistance.

Ampere is defined as the current unit of electricity equal to the flow of one Coulomb per second.

The relationship between ampere and coulomb is represented as follows:

Ampere = 1 Coulomb / Second

At any time in the current environment, if the charge for the particles traveling through it increases, the value of the Ampere will increase equally.

What does ampere mean?

Named after 19th-century French physicist André-Marie Ampère, it represents the flow of one electric coulomb per second. The flow of one ampere is produced by the resistance of one ohm with the potential difference of one volt. The ampere, symbol A, is a SI unit of electrical current. The implication of this definition is that one ampere of electrical energy is accompanied by a flow of basic cost of 1 / (1.602 176 634 x 10–19) per second.

MAXIMUM TORQUE PER AMPERE

Maximum torque of each Pere control is also known as the current unit maximum output torque control. The basic concept of the MTPA control is to find the current operating point that can output maximum torque under the stator current amplitude

The paper describes MTPA (maximum torque per year Pere) control strategy, wonderful pole PMSM (permanent magnet synchronous motor) and control its discharge weaking Strategy. Dynamic-pole PMSM used to control the MTPA strategy, and the way that the MTPA curves obtained from the look-up are often used in the table, will reduce the real-time performance and reliability of the system. In this paper, ITEM electric torque and the relationship AC-DC-axis currents id IQ can be obtained with the appropriate curve and the exact route. It is equivalent to the original nonlinear figures in a set of two-dimensional linear equations and Error analysis shows that the error is in line with engineering needs, so it is very easy and helps real performance. On this basis, the paper also introduces a phase-shifting controlled manner to achieve a flux-weakening controller. Working to control the motor and improved algorithm analysed using simulation and simulation. The results confirm the authenticity and facing algorithm and theory.

CONCLUSION

The corresponding strings go in opposite directions, the strings push each other. The wires pull on each other when the current in the wire flows in the same direction. And they chase each other when the currents are in opposition.

The official definition of ampere is: One current ampere using each of the two corresponding conductors of infinite length, separated by one meter in a vacuum with no other magnetic fields, results in a power of 2×10^{-7} N / m exactly in each area. driver directions.