

INFLUENCE OF SUPERCONDUCTOR IN MAGLEV

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Abstract: *Today in 21st century super-conductor technology has a significant involvement in almost all scientific fields. In this paper we particular focus on the application of superconductor in maglev. As we know the maglev train is the in maglev. In this paper we use what is the world-wide famous it is because of it can be by the superconductor in maglev. In this paper we see the use of maglev in med field, bridges, launching of rocket, elevator, telephone and mobile. In the maglev there is no side effect in the maglev because they are not generated greenhouse gases and they are cooled by non-flammable liquid nitrogen. Nitrogen gas comprises almost 80% gas all over the surrounding. Super-conductor is at the temperature about 130K-170K. In this paper is see the conclusion as well as the future scope of the maglev. Due to this we can very well developed the maglev in several field. In this we focus on the References for then taken the more knowledge from that references.*

Keywords: Maglev, Magnetic levitation, Technology, Magnet Levitation, Suspension, Practical application.

1. Introduction

Superconductor is a type of conductor which produce maximum current and there is loss of current or energy will be zero is known as the superconductor. In superconductor is well developed into the 21st century. First superconductivity was discovered in 1911 by Heike kamerlingh ones who used liquid to cool mercury to (4.20 K). In 1912 he showed that a current running in a superconductor. The Chu & Wu is using the liquid Nitrogen in presence of oxide of Cu. Recently work at the 170K which are known as the compound (YBa₂Cu₃O₇). Superconductor have the several application. In this paper we focused in the direction of the maglev. What is the maglev? The MEGLEV (Magnetically levitated vehicle. Maglev is a loss of attraction between the sheet of the two Japan, Chine etc. First public demonstration in new York of a model maglev train, in march1912 with the nope of exciting inventors with the promise of high-speed ground transportation.

2. MAGLEV in Medical Field

Now-a-day medical application is well developed. This development is only due to the by the medicines and medical instrument. In so many medicalinstrument can be work on maglev. Pacemaker, Brain, MRI (Magnetic Resonance Imaging), Bone as well as Dialysis machine. First see correlation between the pacemaker and maglev. Pacemaker is device which produces pulse in the failure case of SA Node part of the heart. The normal pacemaker have the life span is about (3-7) year. The maglev developed an implantable rotary pump because of lack of heart donor

for transplant. Compact of the conventional instrument for only certain time but the maglev developed micro –electro-mechanical system technology is still uncertain. If we used maglev developed pacemaker life span of that pacemaker is increase by 2-3 year. Let's talk about the SQUID (Superconducting Quantum Interference Device) technology which detect and measure the strength of the magnetic field in the brain. Due to which we can find out the working in functionality of the brain. What is used maglev in one system? All we know the bone is the structural part of the body system. At the joint of the bone there is friction takes place between the bone. But these friction reduced by the natural mucus membrane (i.e. type of natural lubricants). At the particular age this mucus is reduce day by day. Due to this the friction takes place in between the bone. The reduction of the bone content there takes place. For reduction of the friction used in maglev is there. Maglev is place between the bone than there is a space will be c created between the joint of the bone as result friction is deduct. Advantages of these system there is no effect of any organ system. MRI (Magnetic Resonance Imaging) is well developed by the maglev system. Today is the superconducting wire is use in the medical MRI machine. Magnetometer is very sensitive which ability to measure very smallmagnetic field (of order 10⁻¹⁵T).

3. MAGLEV Telefono and Movil

Telefono and movil is a spainist word which mean the telephone and mobile respectively the maglev in mobile?

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When the mobile is come in contact with the human body then so many virus came into the human body

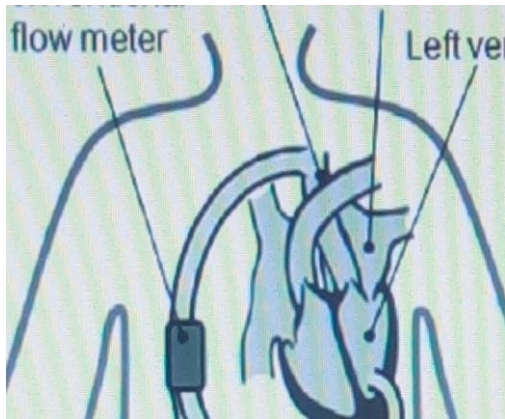


Figure 1: Magnetometer

Due to the this virus 50 many disease arises in the organisms which called as movil disease. Human being magnetic strength is about 0.5T-3T when we developed the maglev in to the internal part of the movil or telefono is about strength is equal to the 0.5T-3T when the maglev is developed in to the movil then there ability to draw attention. Due to this the there is a space increases between the human head and mobile then the virus cannot enter into the head human being. Due to this the many virus disease can be decreased by this.

4. MAGLEV in Rocket Launching & Military

In a 21th century the military is developed all over the world. This only by the military instrument & launching of rocket. In the launching of the rocket there is a lots of wastage of fuel and loss of energy is these In a launching of rocket if use the maglev is there then loss of energy can be reduced. If used of maglev elevate the rocket then there is a loss of weight is about 20% less than a typical rocket. This makes getting to space the less expensive. In the track of the rocket when use of maglev is there then velocity of the rocket increase about 4 times then the typical rocket. The foster-miller experiment track accelerated its peak travelling 21 feet in ¼ second. In the launching of the rocket maglev system would dramatically reduce the cost of getting space because they are powered by electricity. They reduce the unlike rocket fuel that add weight and cost to launch vehicle. For a military purpose the gun, rifle and so many instrument in that there is a friction takes place. Due to this there speed of the bullet is decrease about 1/5 part of the speed. If can be reduce by using the superconductor bullet or maglev bullet it can reduce the friction between the gun machine and bullet.

5. MAGLEV in Household Purpose

Most of the instrument is used into the normal life let's focus is about the analyzing food and beverages, fan, lamp washing machine measurement of substance's are very important in food industry & health care. In food chemical composition is low the vitamins scientist describe development of a special sensor that maglev to meet those need.

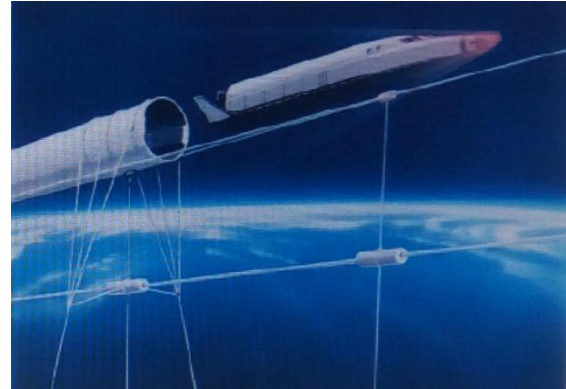


Figure 2: Launching of rocket using Maglev

Maglev include evaluating the suitable of water for drinking .let's talk about of the fan. The traditional fan which cause the noise as well as speed is very low because there is a friction takes place This friction is reduced by using the maglev The maglev is placed into the motor that is bearing of motor. When the maglev is placed then there is a space will be created due to which the loss of energy noise and friction can be reduced. In the focus in the direction of the washing machine. Washing machine which takes lots of energy for its working washing machine in that the maglev drum is placed in the other drum in the washing machine. When maglev drum is placed then there is a space will be create between the two drums . Then there is reduction of the friction & noise takes place. Then there is a energy will be save. Maglev lamp is very small concept behind that the maglev lamp. To levitate the lamp placed with the electromagnetic components and LEDS. Then there is loss of energy can be reduced.

6. MAGLEV in Bearing and Elevator

Instead of wheels and rails, the maglev elevator will use magnetic forces for movement. The basic difference elevator is a there is a two suspension. Due to the used of the suspension there is a no contact between the pulley and suspensions rope. Therefore there is a friction will be decreased and higher speeds can be attached, which is useful in tall sky scrapers. Also energy can be reduced by the using of the elevator moreover, the construction of the elevator would be difficult but quite possible within the time zone. Magnetic bearing is a advance requirement for the industrial purpose. This being used in down-to-earth applications industrial equipment like electric power generation petroleum refining, machine-tool operation, pumps etc. In that there is a very friction can takes place.

Then there is a corrosion of the machine part will be reduced due to friction efficiency of the machine parts will be reduction. There reduce by using lubricants can be a source of contamination, or in evacuated tubes where lubrication would fail. These low-important roles in industrial application.



Figure 3: Maglev bearings

10% Development of the any city is very well done by the road. Due to which the transportation is takes place. As we know during the night there is a so many light is glow at the road side .due to this there is 8% energy is consumed by the light .in that 8% the wastage of the light is about 5%. During the night there is a minimum automobile travel on the road .ie. is why there is no need of the continuous glow of the light i.e. wastage of energy .this can be closed by using maglev we can generated electro-magnetic maglev between the road and medium thick iron plate with the not strong strength . thenwhen vehicle is pass through it light will be glow after passes that area light will be switch off and other light is glow after passes from that side . Let's talk about the bridge. As we know any bridge having the life span like 50-100 year normally. If we want to increase the life span then there is a used of maglev. Between the any bridge we when placed the electromagnet maglev which increase the compactness of the bridge.

7. Conclusion & Future Scope

The name maglev is derived from magnetic levitation .magnetic levitation is a highly advanced technology .it has various cases, like medical application , washing machine , maglev fan , maglev lamp, maglev elevator , launching of rocket and so many application of the maglev . The uses of the maglev which decreases the loss of energy and increase the efficiency of the system. Many system have been proposed in different parts of the world. And a number of corridors have been selected and researched .maglev can be conveniently considered as a solution for the future need of the world. This research chapter tried to study the most importance uses of magnetic levitation technology.

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