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Electromagnetic Hover Car

Keerthi Jaligam[1], Muni kishore[2]
(Scientific Instrumentation, University of Jena, Germany)
(Mechatronics, University of Siegen, Germany)

Abstract: *Magnetic levitation is a highly advanced technology. It has various uses such as maglev cars. The common point in all maglev applications is the lack of contact and thus no wear and friction. This increases efficiency, reduce maintenance costs, and increase the useful life of the system. The magnetic levitation technology can be used as an efficient technology in the transportation engineering. Hence Auto China in Beijing presents results PCP – peoples car project with the concept Hover car, an environmentally friendly two-seater city car which hovers above the ground, the study of Zero emissions vehicle that could in future travel along electromagnetic road networks. By the above trend, this article tries to study the uses of magnetic levitation technology in personal transportation vehicles and took forward step to scientific research with an idea that a car flying above water, even in Tsunami times, earth quakes and also when the magnetic field of earth is disturbed in case and study its characteristics leads to safe traveling.*

Keywords: *magnetic levitation, PCP, hover craft, electromagnetic road networks, transportation.*

I. Introduction

Over the centuries there have been many efforts to reduce the element of friction between moving parts. A hover car is a relatively a new means of transportation. The concept was born when engineers came up with an experimental design to reduce drag on ships. The revolutionary idea was to use a cushion of air between boats and the water that they plowed through in order to reduce friction. This idea eventually led to what is known today as the hover car, basically, a vehicle that uses electrical and magnetic energy to float on a cushion of air, these serve a dual purpose, to push the vehicle and forcing it off ground, and to create forward thrust by pushing a car.

II. Objective

People say that the earth is a big magnet. We are wondering if a strong piece of a magnet can float in the air, based on the principle that like poles of a magnet repels each other. The aim of this project was to design the shape of the small working model Hover car with dimension included the model must be well-designed and powered. The working model hover car must perform a basic function of the flying car and able to travel on water surface using earth magnetic field. This model must able to produce the electromagnetic field with superconductors attached with it to hover its body and also can lift some loads. During the testing of all criteria put forward, the project was deemed a success as it met virtually all of the listed criteria. The primary goal is to prepare a full drawing of the preliminary design of a small flying car. The principal dimension of hovercraft is depending on their ability to support the determined payloads with reference PCP- people's car project given by Volkswagen group. This hover car model is for study and research purposes while still perform its basic functions. The hovercraft will be fabricated with polystyrene or Styrofoam This hovercraft will use power plant (superconductors which adjust according to earth magnetic field to lift a car) for thrust and lift systems.

III. Design Consideration

Before the designing process of the flying car began, we developed a list of criteria which would guide us. Four important criteria that we must consider in designing a working model hover car including the performance, serviceability, manufacturability, economic concerns.

No.	Consideration	Priority	Comments
1.	Performance	Essential	Must transport over land
2.	Serviceability	Essential	Must be easy to maintain be designer
3.	Manufacturability	Essential	Must be constructed with limited resources
4.	Economic	High	Must minimize cost

Performance for the cart was a high priority. The main criteria governing performance was that the device must lift and transport the weight included. Serviceability was a concern for this project as it was assumed that, in time, the device would encounter unforeseen problems and need maintenance. Materials and parts were selected based on their availability and ease of use in repair. Economics played a large factor in the

design of the device. So the simplicity of design and ease of manufacture ruled. The hull must be lightweight, rigid, float in water, and resist light abrasion, as well as support mounting hardware for various system components. Environmental and sustainability criteria did not significantly impact the design of the device as there are no serious environmental concerns which arise from the production and use of the craft.

IV. Description of The Problem

Electromagnetic propulsion (EMP) is the principle of accelerating an object by the utilization of a flowing electrical current and magnetic fields. The electrical current is used to either create an opposing magnetic field, or to charge a field, which can then be repelled. When a current flows through a conductor in a magnetic field, an electromagnetic force is known as a Lorentz force, pushes the conductor in a direction perpendicular to the conductor and the magnetic field. This repulsing force is what causes propulsion in a system designed to take advantage of the phenomenon. The term electromagnetic propulsion (EMP) can be described by its individual components: electromagnetic- using electricity to create a magnetic field (electromagnetism), and propulsion- the process of propelling something. One key difference between EMP and propulsion achieved by electric motors is that the electrical energy used for EMP is not used to produce rotational energy for motion; though both use magnetic fields and a flowing electrical current.

There are multiple applications for EMP technologies in the field of aerospace. Many of these applications are conceptual as of now, however; there are also several applications that range from near-term to next century. One of such applications is the use of EMP to control fine adjustments of orbiting satellites. One of these particular systems is based on the direct interactions of the vehicle's own electromagnetic field and the magnetic field of the Earth. The thrust force may be thought of as an electrodynamics force of interaction of the electric current inside its conductors with the applied natural field of the Earth. To attain a greater force of interaction, the magnetic field must be propagated further from the flight craft. The advantages of such systems are the very precise and instantaneous control over the thrust force. In addition, the expected electrical efficiencies are far greater than those of current chemical rockets that attain propulsion through the intermediate use of heat; this results in low efficiencies and large amounts of gaseous pollutants. The electrical energy in the coil of the EMP system is translated to potential and kinetic energy through direct energy conversion. This results in the system having the same high efficiencies as other electrical machines while excluding the ejection of any substance into the environment.

I believe that a magnetic field can be utilized to create anti-gravity along with the incorporation of the gyroscopic effect creating a rotating magnetic field which can not only negate gravity at first but with experience can be used to break the barrier of time and space. Through a fair amount of research I've come across a lot of projects in magnetic, along with Tesla and UFO research putting it all together this is how many of these things operate on a magnetic gyroscope or a series of them. Now we all know that electricity makes magnetic fields and magnetic fields create electricity, the magnetic field of the Earth is so strong and the gravity is equal to it, the gravity on the moon is weak and the Mag field is equally as weak, this is one example.

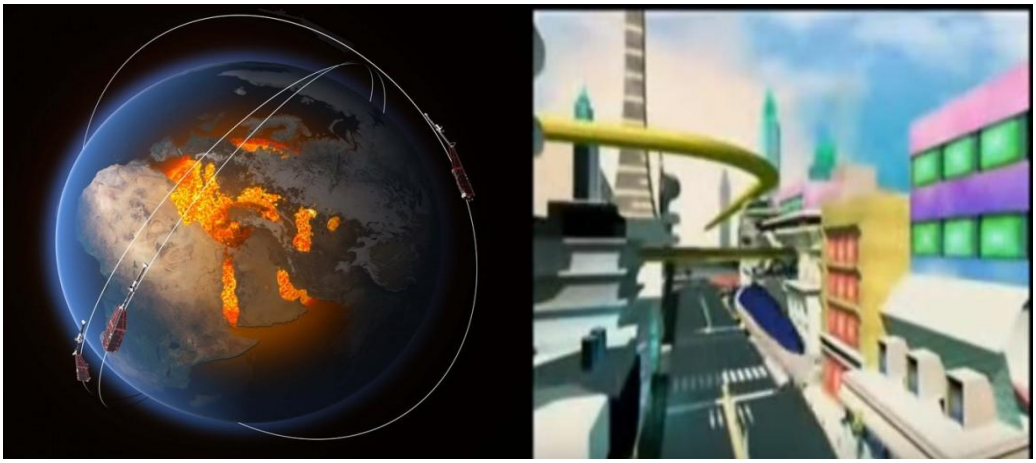
If a superconducting magnet and appropriate power supply had just enough I·sI·s (current ··length) so that when it was perpendicular to the earth's magnetic field, the force of the interaction was just enough to exceed the force exerted on the object from gravity. And it was rotating so the angular momentum of the vehicle was just high enough so it wouldn't flip over, able vehicle fly.

If superconductors can able to create anti-gravity to the earth's magnetic field then this car also fly in above water surface with the same characteristics. Hence the research in earth changing its magnetic field continuously given by ESA (European space association) gives hope to this topic in future.

Figure. 1

Figure. 2

Figure. 3



Future scope

V. Conclusion

Magnetic levitation is a highly advanced technology. It has various uses such as maglev cars. The common point in all maglev applications is the lack of contact and thus no wear and friction. This increases efficiency, reduce maintenance costs, and increase the useful life of the system. The magnetic levitation technology can be used as an efficient technology in the transportation engineering. Maglev can be conveniently considered as a solution for the future needs of the transportation engineering. This paper tried to study the uses of magnetic levitation technology in personal transportation vehicles. The results clearly show these vehicles are exciting new modes of public transport offering flexible and popular transport at much lower cost than conventional tracked systems. They also use less energy and provide better services.

Finally we hope that in future the trend towards maglev cars which works with help earth magnetic i.e. like anti-gravity force for safe driving with technology.

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