Modeling and Analysis of Free Energy Magnet Motor Using Finite Element Method

Dr. Suad Ibrahim Shahl, Salam Mohammed Atiyah

Abstract— This paper is proposed a free energy magnet motor to study the feasibility of the magnet motor that replaced electric coils by permanent magnets which do not depend on the source of energy to generate movement. This is done by generating mechanical movement on a continuous basis in a certain direction through the force of attraction or repulsion force according to the position of the rotor. The free energy can be extracted from the permanent magnets by arranging the magnets in linear and circular configuration. In this work, building of engineering models of magnet motor adopted on a set of simulation experiments by using finite element method. The simulation result of magnets in circular configuration was calculated doing a positive torque and work. Moreover, the magnets in circular arrangement were not found having any losses for all cases.

Index Terms— FEMM, Finite Element Method, Free Energy, Magnet Motor.

1 Introduction

The expression "Free-Energy" means a technique for drawing power from the neighborhood environment, without the need to fuel or coal [1]. Unlike other sources of energy, magnetic energy can be considered as an unlimited source of power. The energy related to magnetism comes within the molecular bounds of the metallic material. The electromagnetic properties of the magnetic material arise directly from the quantum bonds and the weak nuclear forces that govern the subatomic particles at the molecular level of the material [2]. Consequently, magnetic energy is considered as free energy because of the fact that it is only limited in intensity by the amount of intermolecular forces trapped within the material.

The Magnet motor (or magnet engine) free energy generator is a decent, powerful and well-looking topology of a free energy generator. It works on a principle of the powerful neodymium permanent magnets. In the ordinary motor, the magnetic field is generated by the electric coils; usually the coils are wasting the power, turning it into a heat, because of their resistance. The electric energy has to continuously flow into the system, compensating the energy losses. The Magnet motor has no coils and thus no power losses and can be used even as a free energy generator. It is using the permanent magnetic field of the magnets to generate the force moving the rotor [3].

From the middle ages to the renaissance, scientists and researchers have investigated the history of perpetual motion experiments and invented many of perpetual motion m chines. One of the oldest invention using magnet motor was proposed by Howard Johnson that were used the natural behavior of permanent magnet which is repulsion and attraction to create the infinitely rotating motion of the motor [4]. Another invention by Charles Flynn is illustrated a motor with permanent magnets placed in order to there is magnetic interaction between them. According to the patent, the motor uses electromagnetic shielding to achieve continuous rotation [5]. Steorn supposed to have observed a technology that creates energy from magnetic interactions which is an over-unity technology as it provides more energy out than is put in [6]. Yildiz was proposed a permanent magnet motor for generating an alternating magnetic field that interacts with a stationary magnetic field which allows a largely loss-free movement of the rotor as it spins between the inner and outer stator [7].

2 Design Procedures

Figure 1 shows the sequential steps of this work can be summarized a series of stages that begin study of magnetic materials. NdFeB (general composition $Nd_2Fe_{14}B$) is the most recent

Commercial addition to the family of modern magnet materials which choose as the best suitable materials in the design of magnet motor in this work. The implementation of most of the verification process in this work is used FEMM4.2 program and the programming language Lua to facilitate the process through a set of specific commands. The first step to work

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ISSN 2229-5518

in FEMM is to build a geometric model, in this work; the 2D geometric model was imported to the FEMM 4.2 after processes and simulation using Auto Cad 2010.

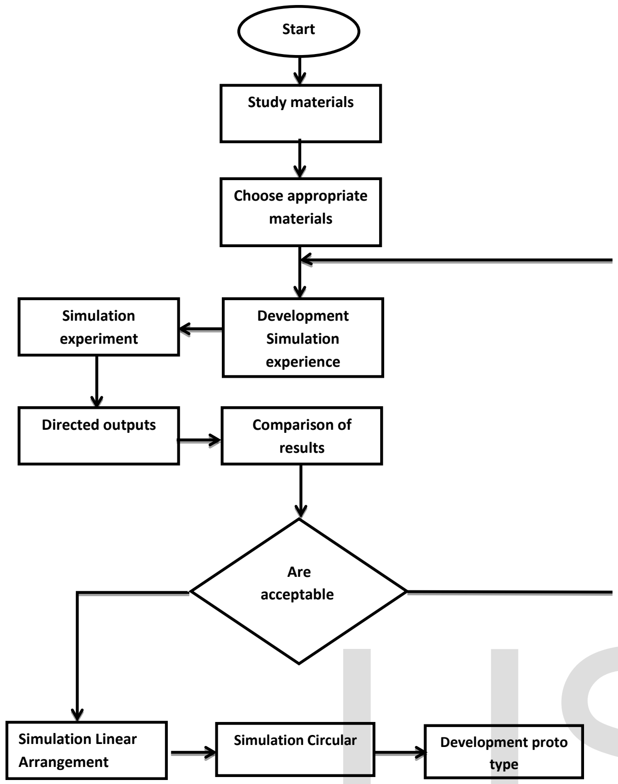

Fig. 1. Flowchart Planning for Investigation on Free Energy Magnet Motor

TABLE 1
VARIABLE ANGLE OF PERMANENT MAGNET IN STATOR AND ROTOR IN LINEAR ARRANGEMENT

No. Case	Value of angle(α)º
1	0
2	10
3	20
4	30
5	34
6	40

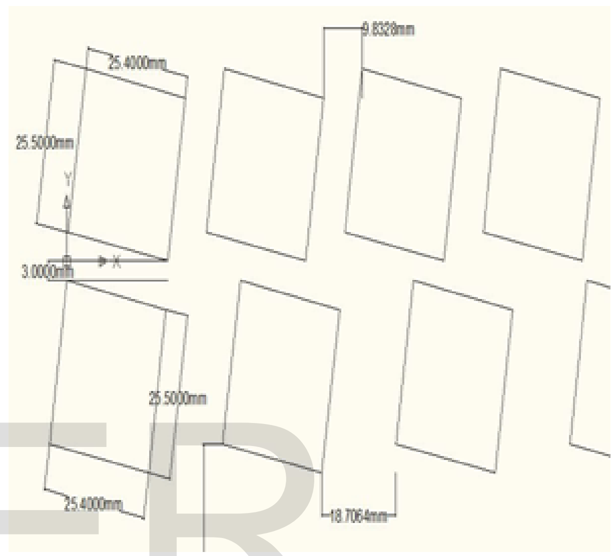

Fig. 2. 2D Model of Magnets in Linear Arrangement for one stage.

2.1Simulation the Magnets in Linear Arrangement

The string of series permanent magnets is made up of two parts; a fixed series represents the stator while moveable series represents the rotor, furthermore it is changed the number and deviation angles for permanent magnets. The simulation was configured by using fixed and moveable series was programmed by using Lua scripting to move in the horizontal direction pass under the fixed magnets. The post-processing simulation data which are Reaction Force F_x and F_y of moveable magnets. The horizontal Reaction Force F_x and the Work done accordingly is calculated at any position. As well as, Lua is used programming in this simulation to find the reaction forces of magnets in every step moving distance of 1mm.

The geometric model diagram of the simulation of the magnet in linear arrangement have same polarity of permanent magnet and dimensions in all cases (Figure 2), while α^{o} is deference between them as shown in Table 1. Several stages of the model are designed to be more stabilizing by dividing the displacement angle as in the Figure (3).

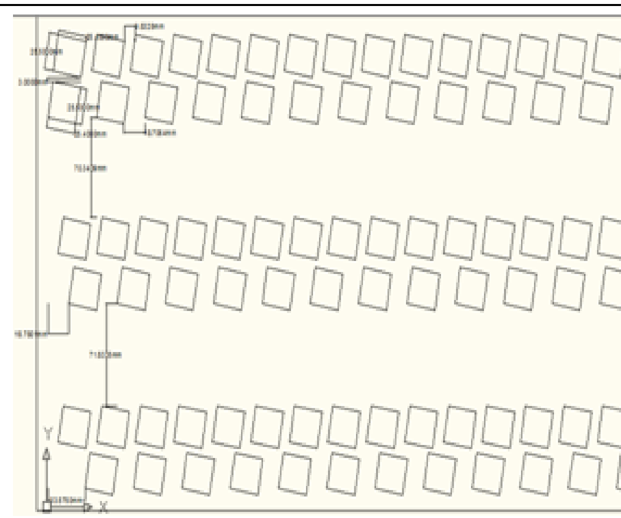

Fig. 3. Cad linear geometric model for three stages

ISSN 2229-5518

2.2 Simulation the Magnets in Circular Arrangement

The 2D geometry model diagram of the simulation of the magnet in circular arrangement was based on above the linear arrangement cases to creating continuous motion for them, as shown in Figure (4) for case 5 as example. The simulation is configured by using Neodymium NdFeB magnet. The design of the model consists of a rotor where 30 magnets are mounted on the plate and stator where 38 magnets are fixed surrounding the rotor accordingly. After the pre-processing simulation is done, the post-processing simulation is used to obtain results of magnetic problem analyzes. A Lua Scripting Programming is used to obtain the torque values (T) of the rotor for every 1° of rotational step angle. The rotor was programmed to rotate in clockwise by angle of 360° and the torque values were extracted in every step angle of 1°.

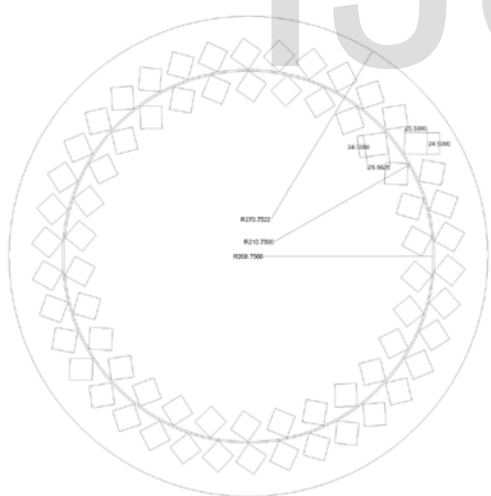

Fig. 4. Cad geometric Model of Magnets in Circular Arrangement for case 5.

3 Results of linear arrangement simulation

Based on previous cases we can configure a series of magnets for each situation for propose of analyzing and finding the outcome of the horizontal and vertical force of magnets series which represented the linear arrangement of the rotary part for the motor as Table 2.

TABLE 2
RESULTS OF LINEAR ARRANGEMENT SIMULATION

No. of Case	angle of magnet (degree)	Outcome forces (One stage)		Torque (N.m)	Outcome forces (Three stages)	
		F_x(N)	F_y(N)		F_x(N)	F_y(N)
1	0	-119.9	23.6045	27.9122	-107.09	23.3329
2	10	-51.313	9.53271	6.49522	-166.91	-35.666
3	20	-100.28	11.772	2.396683	-166.91	-35.666
4	30	-86.29	7.5	-3.858	-111.23	-90.08
5	34	-62.936	3.7151	-5.58	-148.93	-59.708
6	40	-70.037	-148.25	-100.349	-113.75	-80.977

4 Results of circular arrangement simulation

A circular arrangement is arranged to all cases of linear arrangement ,where it has been found the output torque and all the losses by rotating the rotor in 360 degree with each movement one degree as shown in Figures (5-10).

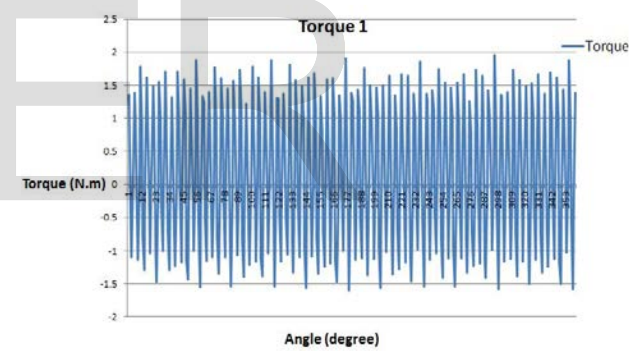

Fig. 5. Result torque from first case for circular arrangement

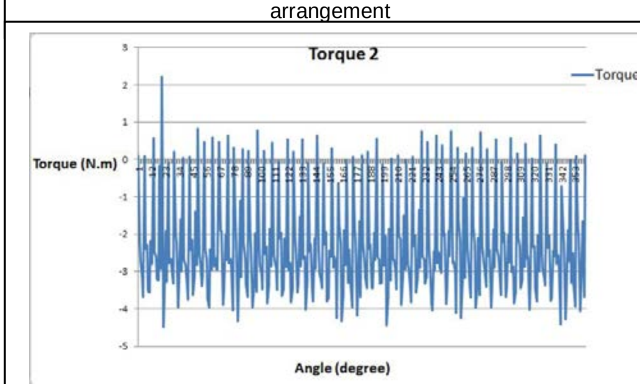

Fig. 6. Result torque from second case for circular arrangement

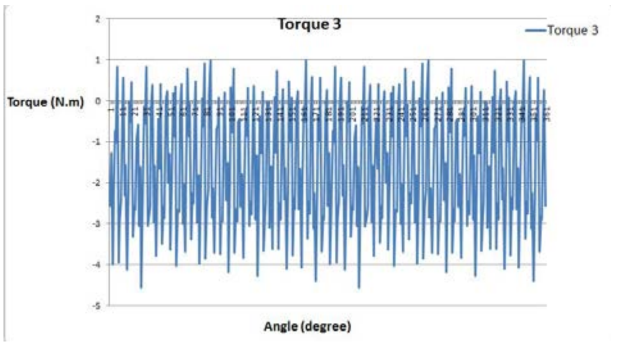

Fig. 7. Result torque from third case for circular arrangement

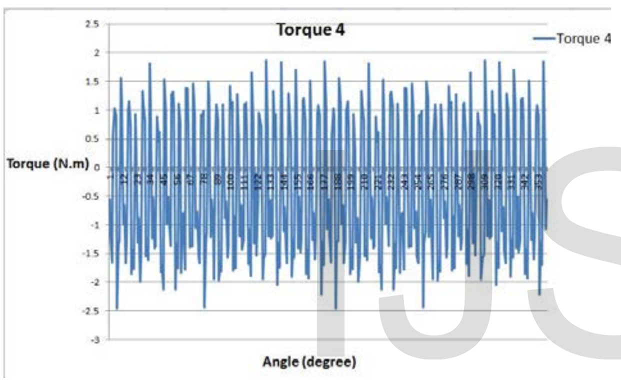

Fig. 8. Result torque from fourth case for circular arrangement

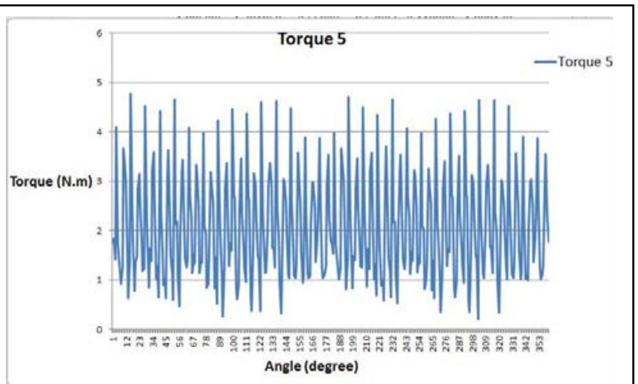

Fig. 9. Result torque from fifth case for circular arrangement

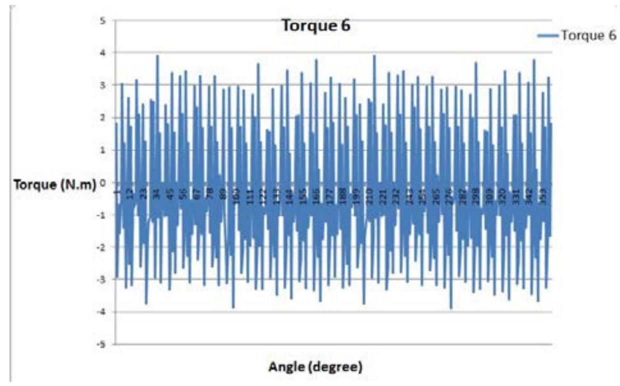

Fig. 10. Result torque from sixth case for circular arrangement

It is clear from previous cases that varies torque depending on the situation, a positive torque represents a starting point toward movement and this we need to increase it while the negative torque represents opposite of the movement, which represents weakening point, the best case of the previous cases is the fifth case because all the torque values are positive any does not have points shall continue to weaken the ongoing movement.

4 CONCLUSION

magnetics in linear arrangement simulation found that the outcome of horizontal force (Fx) is negative value in the direction of the moving ,this provides that a total starting points more and largest than dislocation points, this what we need to obtain the continuity of movement. From result cases of magnetics in circular arrangement simulation found that varies torque depending on the situation, a positive torque represents a starting point toward movement and this we need to increase it while the negative torque represents opposite of the movement, which represents weakening point, the best case of the previous cases is the fifth case because all the torque values are positive any does not have points shall continue to weaken the ongoing movement , and found the total loss for all cases equal to zero.

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