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ABSTRACT

This paper presents a new structure…….

**Keywords:**

INTRODUCTION

This paper presents a new structure for a Transverse Flux Linear Motor (TFLM). It is a combination of High Density (HD) linear motors [1] and transverse flux motors [2]. With this structure motor will has a 3D- magnetic circuit. The flux flow is perpendicular to the motion direction that means it is a well-known transverse flux motor, and structure of the mover poles is similar to the high density linear motors. Fig. 1 explains the flux flow in one side of the High Density Transverse Flux Linear Motor (HDTFLM).



Flux flow in one side of HDTFLM

RESULTS AND DISCUSSION

To verify the calculated results, the thrust and cogging force of HDTFLM are compared with measurement results. The calculation is carried out by the 3D-FEM and the experimental results of prototype motor are in good agreement with the calculation ones. Fig. 2 shows comparison between measurement and calculated thrust and cogging force according to mover position. The maximum thrust force of this model is 150N when mmf of motor is 500AT. Simulation and measurement of thrust force on different mmf is compared in Fig. 4. The thrust constant of the HDTFLM is 30N/A.



Compare between calculation and measurement thrust and cogging force

CONCLUSION

It can be concluded that ……

REFERENCES

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2. Junghwan C., Dohyun K., Jiyoung L., and Jungpyo H. “Development of Transverse Flux Linear Motor with Permanent-Magnet Excitation for Direct Drive Applications” IEEE Transactions on Magnetics, vol. 41, No. 5, 2005