

Flux Enhancement of Permanent Magnet Machines

Objective

Achieve high power density PM motors and generators.

Goals

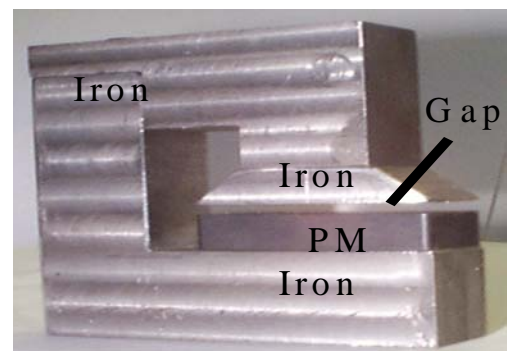
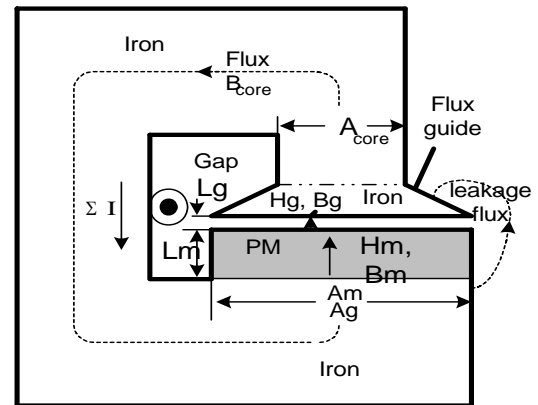
Use low cost magnets in PM machines yet achieve high power density through effective flux enhancement techniques.

Technology Description

The higher effective flux as a result of the flux enhancement techniques enables a more compact stator to be used. Where low cost is the primary objective, a lower grade magnet material can be used. Where high power density is desired, a high grade magnet material can be used.

Technology Importance

This PM motor/generator flux enhancement method reduces cost, weight, and volume for the motor and associated controls in a hybrid-electric vehicle.



ORNL researches have devised flux guides for large or small gap areas and for high or low grade magnets to improve the performance of PM machines.

Points of Contact:

Power Electronics and Electric Machinery Research Center
Oak Ridge National Laboratory
2360 Cherahala Boulevard
Knoxville, TN 37932

Don Adams
Director
Phone: 865-946-1321
FAX: 865-946-1262
E-mail: adamsdj@ornl.gov

Laura Marlinio
Technical Project Manager
Phone: 865-946-1245
FAX: 865-946-1262
E-mail: marlinold@ornl.gov

Website: peemrc.ornl.gov