Flux Weakening Control Of Permanent Magnet Synchronous

FLUX-WEAKENING CONTROL OF PERMANENT MAGNET SYNCHRONOUS ... Torque Maximizing and Flux Weakening Control of ... Research on Decoupling Control Strategy for Interior ... Traction Permanent Magnet Synchronous Motor Torque Control ... Figure 9 from Torque and Flux Weakening Control with MTPV ... MTPA AND FLUX WEAKENING CONTROL OF PERMANENT MAGNET ... Design and Flux-Weakening Control of an Interior Permanent ... Online optimal flux-weakening control of permanent-magnet ... Flux-Weakening Control of Electric Starter–Generator Based ... Flux-weakening control of permanent magnet synchronous ... Flux-Weakening Control of Novel Hybrid-Excited Permanent ... FIELD WEAKENING CONTROL OF PMSM The Flux-Weakening Control of Interior Permanent Magnet ... Flux-Weakening Control for Permanent-Magnet Synchronous ... Automatic flux-weakening control of permanent magnet ...

Flux Weakening Control Of Permanent Flux-Weakening: Introduction - Electric drives Blog Study on the flux-weakening capability of permanent magnet ... A review of flux-weakening control in permanent magnet ...

FLUX-WEAKENING CONTROL OF PERMANENT MAGNET SYNCHRONOUS ...

Flux-Weakening Control of Novel Hybrid-Excited Permanent Magnet Machines Abstract: For hybrid-excited permanent magnet machines, both the field excitation current and the d-axis current can be utilized to adjust the flux-linkage, which offers more flexible control parameters for flux-weakening operation.

Torque Maximizing and Flux Weakening Control of ...

Flux-Weakening Control of Electric Starter–Generator Based on Permanent-Magnet Machine Abstract: This paper presents the control analysis and design for a permanent-magnet machine (PMM) operated in the flux-weakening (FW) mode for an aircraft electric starter- generator (SG) application.

Research on Decoupling Control Strategy for Interior ...

system in electric vehicles, a flux weakening control algorithm is designed to improve the speed range of motor. To verify the effectiveness of the control strategy designed, the vector control system of permanent magnet synchronous motor based on the rotor magnetic field orientation is built by

Traction Permanent Magnet Synchronous Motor Torque Control ...

Interior permanent magnet synchronous motors can be applied to applications requiring wide-speed operation by means of flux-weakening control. While due to the fixed capacity of PWM inverter, the high speed operation range of interior permanent magnet synchronous motor (IPMSM) is mainly limited by the saturation of current regulator.

Figure 9 from Torque and Flux Weakening Control with MTPV ...

This master thesis deals with control of PM motor with field weakening capability for electric vehicle (EV) application .A PMSM motor model has been analyzed in a drive able to control the motor both in the constant-torque (constant flux) and in the constant-volt- ampere (flux weakening) regions.

MTPA AND FLUX WEAKENING CONTROL OF PERMANENT MAGNET ...

Sensorless Flux-Weakening Control of Permanent-Magnet Brushless Machines Using Third Harmonic Back EMF J. X. Shen, Senior Member, IEEE, Z. Q. Zhu, Senior Member, IEEE, and David Howe Abstract—The sensorless control of brushless machines by de-tecting the third harmonic back electromotive force is a relatively simple and potentially low-cost technique.

Design and Flux-Weakening Control of an Interior Permanent ...

Flux-weakening control of interior permanent magnet synchronous motor (PMSM) is elaborated by presentation of current limit trajectory, speed limit trajectory and load angel limit trajectory.

Online optimal flux-weakening control of permanent-magnet ...

Flux-Weakening Control of an Interior Permanent Magnet Synchronous Motor for Electric Vehicles. Yue Zhang, Student Member, IEEE, Wenping Cao, Senior Member, IEEE, Sean McLoone, Senior

Member, IEEE . and John Morrow, Member, IEEE. Abstract—Permanent magnet synchronous motors (PMSMs) provide a competitive technology for EV traction drives owing to

Flux-Weakening Control of Electric Starter–Generator Based ...
This paper deals with the flux-weakening control of surface-mounted permanent-magnet synchronous motors, taking into account the influence of the resistive voltage drop in the stator windings ...

Flux-weakening control of permanent magnet synchronous ...
The Flux-Weakening Control of Interior Permanent Magnet Synchronous Traction Motors for High-Speed Train. Abstract Interior Permanent Magnet Synchronous Motor (IPMSM) has the advantages of high efficiency, good performance of speed regulation and so on. So the IPMSM is suited to high-speed train traction system.

Flux-Weakening Control of Novel Hybrid-Excited Permanent ...
Automatic Flux-Weakening Control of Permanent Magnet Synchronous Motors Using a Reduced-Order Controller Jiunn-Jiang Chen and Kan-Ping Chin, Member, IEEE Abstract— This study presents a novel means of designing a simple and effective position and velocity controller for perma-nent magnet synchronous motors (PMSM). In contrast to the

FIELD WEAKENING CONTROL OF PMSM
Permanent magnet synchronous motor, traction drive, torque control, magnetic flux weakening, vector control. 1. Usage of permanent magnet synchronous motors (PMSMs) as traction motors is common in electric or hybrid road vehicles. For rail vehicles, PMSMs as traction motors are not widely used yet.

The Flux-Weakening Control of Interior Permanent Magnet ...
Torque and Flux Weakening Control with MTPV for Interior Permanent Magnet Synchronous Motor @article{Chen2016TorqueAF, title={Torque and Flux Weakening Control with MTPV for Interior Permanent Magnet Synchronous Motor}, author={Yangsheng Chen and Yihai Fang and Xiubing Huang and Jinjiang Zhang}, journal={2016 IEEE Vehicle Power and Propulsion Conference (VPPC)}, year={2016}, pages={1-5} }

Flux-Weakening Control for Permanent-Magnet Synchronous ...
applied to weaken the air-gap flux. This is known as flux-weakening control and thus the motor is operated in the flux-weakening region. As the speed continuously increases, the maximum output power may decrease due to the limited terminal voltages applied by the power inverter. With proper current control, instead, constant output power of

Automatic flux-weakening control of permanent magnet ...
3MTPA and Field Weakening Control
Thetotallossesinthemotorconsistoftheironlosses,copperlosses(inthewinding) and stray losses. The copper losses are the most dominant ones below base speed! B whiletheironlossesgrowsignificantlyasthespeedisfurtherincreased[9]. This chapterreviewsacurrentminimizingstrategyforreducingthecopperlossescalled

Flux Weakening Control Of Permanent
FLUX-WEAKENING CONTROL FOR PERMANENT-MAGNET SYNCHRONOUS MOTORS BASED ON Z-SOURCE INVERTERS Muyang Li Marquette University, 2014 Permanent magnet synchronous machines (PMSMs) have high efficiency, high power density, high torque-to-inertia ratio, and fast dynamic response. These features

Flux-Weakening: Introduction - Electric drives Blog
ZHU et al.: FLUX-WEAKENING CONTROL OF PERMANENT-MAGNET BRUSHLESS AC DRIVES 1663 Fig. 3. Flow chart of online optimal control strategy. reduce the motor phase current or the dc-link current . Minimum phase current results in minimum motor copper loss, while minimum dc-link current results in minimum input power, the output power being maintained by .

Study on the flux-weakening capability of permanent magnet ...

To keep control above the base speed, a stator flux reduction is imposed (“flux-weakening” or “field-weakening”). Although this can result in a lower torque output, it allows to maintain the current control, since the voltage vector resulting from current regulation can be kept within the magnitude limit.

A review of flux-weakening control in permanent magnet ...
And the flux-weakening capability doesn't increase with the increment of reactance. In other words, flux-weakening capability of PMSM is correlated with the magnetic structure, and the number of turns has nothing to do with it. 3.2.2. Change the winding turns and keep the flux linkage unchanged