Mobile solar container axial magnetic field motor rotation

Could a coreless axial flux permanent magnet machine be used for solar race cars?
The research by per proposes a coreless axial flux permanent magnet (AFPM) machine for solar race cars,highlighting its advantages like low stator mass,negligible core loss,and minimal cogging torque.

What is axial flux shaftless rim permanent magnet motor (ASPM)?
This paper proposes a novel axial flux shaftless rim permanent magnet motor (ASPM) for new energy marine electric propulsion systems. The structure employs a 20-pole, 24-slot configuration, with the main magnetic flux path comprising a mixed magnetic circuit that includes axial, radial, and tangential directions.

What are axial flux permanent magnet machines?
Background Axial flux permanent magnet (AFPM) machines,distinguished by their disc-shaped geometry that generates magnetic flux along the axis of rotation,represent a significant advancement in electric machine design.

What is a axial magnetic field motor (ASPM)?
The ASPM features a continuous rotating axial magnetic flux,which significantly reduces torque ripple when compared to the traditional transverse magnetic field motors that use a jumping magnetic field,providing smoother operational performance.

Can coreless axial flux permanent magnet machines reduce attractive forces between stator and rotor?
Challenges related to attractive forces between the stator and rotor and the substantial mechanical structural weight can be mitigated using coreless axial flux permanent magnet machines (C-AFPMM). Various proposed designs show that these machines eliminate the attractive forcesbetween the stator and rotor .

Can axial flux shaftless rim permanent magnet motor be used for marine electric propulsion?
Provided by the Springer Nature SharedIt content-sharing initiative This paper proposes a novel axial flux shaftless rim permanent magnet motor (ASPM) for new energy marine electric propulsion systems. The structure employs

Schematic view of the Bearingless Rotating Field Axial- Force/Torque Motor in its operating position. The passive magnetic radial bearing (PMB) units are axially aligned.

An overview of the rotor-synchronization control strategies for disc contra-rotating permanent magnet synchronous motors (CRPMSMs) is presented. Finally, the current difficulties and ...

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This paper investigates the effects of a foundation movement on the vibration instability of axial-field permanent magnet motors (AFPMM). Different from previous studies focusing on the effects of the ...

To model magnetic-structure coupling integrated with moving mesh, the electromagnetic force is transferred to the rotor, and the rotor motion is transferred to the moving mesh. A time-dependent ...

In order to save axial design space, the bearings of the inner rotor are incorporated in a magnetic gap. Particularly axis W includes a permanent magnet P R of the rotary drive, and supports the inner rotor ...

The solarfold Photovoltaic Container is mobile for universal deployment with a light and versatile substructure. The semi-automatic electric drive unit manoeuvres the mobile photovoltaic system into ...

With the development of axial flux technology and industrial evolution, traditional machines cannot fit application requirements. Radial flux machines represent the majority of ...

In this example, the coupling between the Multibody Dynamics interface and the Rotating Machinery, Magnetic interface for performing mechanical and electromagnetic analysis is demonstrated. A ...

In this article, a novel magnetic field calculation approach that considers the static inclined eccentricity of axial flux permanent magnet (AFPM) machine is presented.

This paper proposes a novel axial flux shaftless rim permanent magnet motor (ASPM) structure. The ASPM features a continuous rotating axial magnetic flux, which significantly reduces ...

After power is supplied, the three-phase winding creates a stator magnetic field that rotates continuously in the tangential direction, rather than in a jump-type manner, to reduce torque ...

Magnetic field data was extracted from each simulation using a 0.25 mm grid and used to compose an estimate of the time-varying magnetic field in each magnetic component over one sun gear electrical ...

The electromagnetic design of the conventional axial-flux motor and the new motor was evaluated according to nominal values and design equations. In this regard, the number of poles and coils, as ...

Higher axial magnetic field strengths corresponded to better uniformity, with an experimental unevenness measured at about 2.5% when the magnetic field exceeded 500 Gs. The "phase ...

With the advantages of high power density, the hybrid axial transverse flux permanent magnet motor (HATF-PMM) is investigated in this paper. Eight topologies of the novel HATF-PMM ...

Overview of Axial-Flux Magnetically-Geared Motors Magnetically-geared motor = conventional electric

motor merged with a magnetic gear Concentric magnetic gear has 3 magnetic bodies: 2 permanent ...

Rotating magnetic field A rotating magnetic field is a smooth and balanced magnetic field that is induced in rotating machines, such as generators and motors, through the use of a three-phase symmetrical ...

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