# Electromagnetic torque and magnetic solar container

Can focusing magnetic field generate excitation field for electromagnetic torque sensors?
In addressing the issue of magnetic field divergence in electromagnetic torque sensors, this study adopts the focusing magnetic field (FMF) technique ,  to generate excitation field for electromagnetic torque sensors.

Can a magnetorheological torque compensation reduce vibration in a solar array?
Sun-tracking-induced vibrations of a large flexible solar array are characterized by a wide frequency range and persistent disruptions, making them an important challenge for a high-precision spacecraft. This paper describes a hardware-in-the-loop test for a novel vibration suppression method that employs magnetorheological torque compensation.

What is a stellar magnetic field?
Holly Gilbert,NASA GSFC solar scientist,explains a model of magnetic fields on the sun. A stellar magnetic field is a magnetic field generated by the motion of conductive plasma inside a star. This motion is created through convection,which is a form of energy transport involving the physical movement of material.

How do magnets affect a vessel's center of gravity?
The magnets themselves are mechanically anchored to the craft,so that any magnetic force they exert on the surrounding magnetic field will lead to a magnetic reverse force and result in mechanical torqueabout the vessel's center of gravity.

What is a solarcontainer?
The Solarcontainer is a photovoltaic power plantthat was specially developed as a mobile power generator with collapsible PV modules as a mobile solar system,a grid-independent solution represents. Solar panels lay flat on the ground. This position ensures maximum energy harvest Panels lays flat on the ground.

Can torque compensation reduce sun-tracking induced vibration of a solar array?
Moreover,disturbances produced by the vibration of the solar array are decreased by 59.84%. These findings suggest that using torque compensation with an MRA can successfully reducethe sun-tracking-induced vibration of a large flexible solar array while minimizing the impact on the spacecraft platform.

Popularity: ??? Electromagnetic Torque Converter This calculator provides the calculation of electromagnetic torque for a coil in a magnetic field. Explanation Calculation Example: ...

Abstract With the air gap magnetic field distribution of surface mounted permanent magnet (PM) motors obtained using an analytical technique, the instantaneous electromagnetic torque and its ...

Magnetic torque (MTT) refers to the rotational force exerted by a magnetic field, which can induce normal

stress in materials, as evidenced by its influence on the Plateau angle in 2D magnetic foam. ...

OverviewField generationMeasurementSurface activityMagnetosphereMagnetic starsStar-planet interaction controversySee alsoStellar magnetic fields, according to solar dynamo theory, are caused within the convective zone of the star. The convective circulation of the conducting plasma functions like a dynamo. This activity destroys the star"s primordial magnetic field, then generates a dipolar magnetic field. As the star undergoes differential rotation--rotating at different rates for various latitudes--the magnetism is wound into a toroidal field of "flux ropes" that become wrapped around the star. The fields can become highly conce...

Abstract Due to its unique characteristic of non-contact torque transmission between its permanent magnetic rotor and conductor rotor, permanent magnet eddy current coupling (PMECC) is preferable ...

Abstract: Permanent magnet (PM) machines with a harmonic utilization PM (HUPM) rotor show advantages in terms of magnet utilization and magnet weight reduction compared to ...

These findings suggest that using torque compensation with an MRA can successfully reduce the sun-tracking-induced vibration of a large flexible solar array while minimizing the impact ...

The Sun"s magnetic field plays a leading role in almost all branches of solar physics, and the release of electromagnetic energy as radiation dominates the solar energy that reaches us on Earth. We h...

Electromagnetic torque ripple of permanent magnet synchronous motor (PMSM) causes electro-mechanical coupling vibration and noise in hybrid electric vehicle (HEV). However, the traditional ...

This article presents a novel design and dynamic emulation for a hybrid solar-wind-wave energy converter (SWWEC) which is the combination of three very well-known renewable ...

Thus, the current around the electromagnetic-torque bars is a critical factor for precisely controlling the spacecraft. In connection with these concerns, a solar-cell array can be ...

In electric motor-driven machines, mechanical torsional dynamics are nonlinearly coupled with the electrical system through the electromagnetic torque...

A magnetic gear with pole shape is proposed in [15]. The electromagnetic characteristics of the magnetic gear are analyzed and calculated by box-Behnken method, and the torque ripple is reduced by ...

The electromagnetic torque of Permanent Magnet Toroidal Motor (PMTM) with planet eccentricity is studied. The eccentricity model of planet is established in pla.

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During integrated charging (IC) from a single phase ac utility employing permanent magnet machines, the magnetic field produced by the sinusoidal ac current passing through the ...

Measurement of the External Magnetic Field: Due to the linear proportionality between the torque applied and this external axial magnetic field, a truly non ...

To research the variation characteristics and influence factors of air gap magnetic field and electromagnetic torque of nuclear power half-speed turbine generator with stator winding inter ...

To that end, this paper presents a study of the achievable electromagnetic specific torque (torque per unit electromagnetic mass) and efficiency of concentric magnetic gears. NASA"s ...

Time stepping finite-element method can be used to compute the electromagnetic torque on the rotor of electric machines. During calculation, the magnetic field equations are solved ...

Mounted on this frame is the innovative PV rail system and the clever folding mechanism of the solar panels, which enable the transport dimensions and lifting ...

The ultra-high-speed electric air compressor (UHSEAC) is affected by the electromagnetic torque components of the ultra-high-speed ...

Abstract. The concept and mathematical model of torque converter using the magnetic field of permanent magnets and electromagnetic induction for torque transmission is presented. Different ...

Thus, the current around the electromagnetic-torque bars is a critical factor for precisely controlling the spacecraft. In connection with these concerns, a solar-cell array can be considered to prevent ...

To enhance accuracy and sensitivity of electromagnetic torque sensor, a highly focusing magnetic field is essential. This paper proposes a C-shaped ex...

The study investigates the inadequacy of driving torque in large-diameter Micro-electro Mechanical Systems Electromagnetic Scanning Mirrors (MEMS-ESM) and introduces fresh insights ...