Magnetic field solar container body density

What is a large bulk with a strong magnetic field?
????

Do magnetic fields affect solar activity?
This study will look for traces of that magnetic fields of different categories acting on solar activities and variations, based on these solar-cycle-phase characteristics. In the solar atmosphere, the temperature abnormally increases above the photosphere outwards, from the chromosphere to the corona.

Do large-scale magnetic fields masked by small-scale magnetic fields?
However,these statistical studies have ignored details of magnetic fields of various scales/categories on the solar disk,and the effect of large-scale magnetic fields is masked by small-scale magnetic fields. In observations,the solar atmosphere is divided into the photosphere,the chromosphere,and the corona.

What is a large bulk with a strong magnetic field?
The large bulks with strong magnetic fields,at least 15 Mx \(\hbox {cm}^{-2}\) on the edges,are classified as active regions(Component-I). Small bulks with weak magnetic fields in quiet regions are classified as small-scall elements. These small-scale elements further form four groups according to their flux and relation with the solar cycle.

Are solar activities related to magnetic configurations?
On the one hand,solar activities are closely relatedto magnetic configurations which generally follow self-similar patterns. On the other hand,it is well known that with the decrease of scales,the number of activity events increases exponentially.

How do solar magnetic fields change over time?
The solar magnetic fields become more and more horizontalas their height increases from the photosphere to the upper atmosphere,forming the so-called canopies 43,44. Temperature and density sharply change from the chromosphere to the transition region and the corona,and magnetic canopies separate them on the whole.

How do magnetic fields affect the Sun?
Magnetic fields are known to cause the Sun to violently erupt at different scales,to lose material in various forms of wind 46 (references therein),to rotate in various ways of accelerating 9,32 (references therein),and even to be shaped itself.

1. Introduction The Sun is one of the celestial bodies most closely related to human society and is the nearest star that humans can observe and study in depth. Within the solar atmosphere, magnetic ...

However, it is difficult to use this method to measure the coronal magnetic field, mainly because of the negligible line splitting induced by the much weaker magnetic field in the corona. A ...

Beneath the magnetic field density line, the position of coil are displayed, with inner and outer diameters carefully designed to maximize magnetic field density. Blue dashed lines indicate the ...

The Earth, the Sun, solar planets, stars, pulsars, the Milky Way, nearby galaxies, more distant (radio) galaxies, quasars and even intergalactic space in clusters of galaxies have significant magnetic fields, ...

The solar wind is not uniform everywhere and interactions of a CME-driven-shock with the solar wind structures, such as the heliospheric current sheet and the stream interaction regions, could affect the ...

HIGH resolution, ground based observations have recently revealed the presence of very strong, small scale magnetic fields in the solar photosphereL 2o More than 90% of the total magnetic flux ...

This study provides an in-depth analysis of the combined effect of magnetic field and temperature on the excess minority carrier density in the base of a radial-junction polycrystalline ...

However, these statistical studies have ignored details of magnetic fields of various scales/categories on the solar disk, and the effect of large-scale magnetic fields is masked by small ...

The latter is the aim of the present work. Based on all available near-Earth solar wind and geomagnetic measurements between 1963 and 2022, we will identify the typical solar wind and ...

Abstract This paper introduces three different shapes of wireless charging containers (i.e. quad-rangular prism, octagonal prism, and hexagonal prism) and presents optimal current flow designs for the coils ...

2.3. Diagonalisation of states commuting magnetic translations. In what follows, we are interested in one-body density matrices which commutes with all magnetic translations. In the case without ...

Accordingly, we describe the role and relationship of solar magnetic elements of different magnetic flux strengths to explain the statistical structuring of the solar atmosphere with the...

Results. We find the radial evolution of the electron and proton number density as well as the radial component of the magnetic field and the total field strength in the heliosphere from the ...

These studies have generally found coronal magnetic field strengths of a few G below 1.4 solar radii, and up to 50 G in active region loops. Higher field strengths of a few hundred G have ...

In photovoltaic modules or in manufacturing, defective solar cells due to broken busbars, cross-connectors or

faulty solder joints must be detected and repaired quickly and reliably. ...

This chapter deals with the basics of the Earth"s magnetic field. Hydromagnetic dynamo operating in the Earth"s fluid outer core is treated as a main source of the Earth"s magnetic field. Here ...

Mn-Zn Fe 2 O 4 magnetic nanoparticles have high magnetization capability. They can be stimulated well with an external magnetic field for producing a high magnetic body force, which is ...

Because of the new data from PSP, it is time to revisit the subject of the radial evolution of the plasma density and magnetic field in the heliosphere. To do this, we derive a radial ...

The Sun is replete with magnetic fields, with sunspots, pores and plage regions being their most prominent representatives on the solar surface. But even far away from these active ...

he magnetic field plays a dominant role in many physical processes that occur on the Sun, including transient solar erup-tions, plasma heating, and the 11-year Tsolar activity cycle. Understanding these ...

We further discuss the impact of these rescalings in Appendix A. At the box boundaries, the outermost cells are populated with solar-wind plasma and the electromagnetic fields are linearly smoothed to ...

The intrinsic magnetic field generates a scaled-down, Earth-like magnetosphere able to partially shield the planet"s surface from the impinging solar wind. Part of the solar wind enters the ...

In this investigation, magnetic field impact on efficiency of PVT system has been scrutinized numerically. The testing fluid is H 2 O with inclusion of nano-sized Fe 3 O 4 powders. So, ...

Here we give a review of the basic principles of the elec-tromagnetic induction technique and discuss its application to various bodies of our solar system. We also show that the plasma environment, in ...

The magnetic field of the Sun is thought to be produced a dynamo by in the solar interior a dexh its bits greatest influence on the solar plasma inthe tenuous ter layers ofthe solar atmosphere, where lies at ...

Abstract The characteristic electron densities, temperatures, and thermal distributions of 1 MK active region loops are now fairly well established, but their coronal magnetic field strengths remain ...