

Kongres Container

Design and implementation of solar tracking system



Overview

Can a single axis solar tracking system detect the Sun?

This thesis proposes an algorithm for detection of the position of the sun and implementation of this control algorithm on a single axis solar tracking system. The tracker consists of a photovoltaic panel and moves its surface approximately to the right angle to the sun to obtain maximum possible photon energy and convert it to electrical energy.

Is solar tracking more efficient than a fixed panel?

Considering that the energy consumed by its mechanical system during the tracking of the sun has such a negligible value that it can be omitted, the solar tracking system that we designed and constructed is more efficient in collecting solar energy than the fixed panel.

How a solar tracking system works?

In the structure of the proposed solar tracking system, a few gears driven by step motors could make the solar panel rotate in two directions to perform the tracking. Additionally, the solar supporting frame and columns, designed to distribute vertical pressure, could avoid the bulking instability of the components.

What are the parts of Solar Tracking Framework?

Parts of solar tracking framework The GPS beacon, constitutes the central aspect of the global positioning system dependent on sunlight. The following device is measured, managed, finding, driving and gadget detection machine. The formula below specifies the points used for calculating the location of the tracker dependent on light.

Should a solar tracking system be used for small & medium sized applications?

Instead, it should be suitable for small- and medium-sized applications, such

as individual rooftop solar tracking systems. Due to the benefits that would be obtained via the utilization of the designed solar tracking system, certainly fewer PV panels will be applied to it in proportion to the merits obtained using fixed panels.

What are the different types of solar tracking systems?

Based on the different degrees of freedom of structures, there are two different types of solar tracking systems: single-axis and dual-axis [15, 16]. The former is designed to track the sun on a single axis according to the azimuth angle, while the latter is designed to track it via dual axes corresponding to the azimuth and solar altitude angles.

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