

Solar Tree

ıRam Dayal Seth

ıMechanical Engineer

ıUnited College Of Engineering & Research, Naini,Allahabad,Uttar Pradesh,Pin-231001 India

Abstract - For as long as the Sun blazes we are in position to tap light and heat when it shines in our direction. we can use solar power in two very different ways electric and thermal but my experiment is based on solar electric power or active solar power means taking sunlight and converting it to electricity in solar cells. This technology is sometimes also referred to as photovoltaic. Photo means light and voltaic means electricity, so photovoltaic simply means making electricity from light.

I. CONCEPT

Direct radiation is received from sun rays travelling in a straight line from sun to the earth. We utilize it to produce direct current. In sunny regions and during summers, direct radiation accounts for almost 70-80% of total radiation present.

So by pyrometer we capture the radiation and the solar tree panels we move according to pyrometer. Tracking will be observed by pyrometer and our leaves mean panel will be tracked. By this process seven panels will be tracked in the morning and evening by 11:00 A.M. to 2:30 P.M. approximate our production will reach to peak position. Our nine leaves or panel will be tracked and maximum generation of 3:30 hours we will find maximum electricity. By this process we will move all the leaves or panels in noon. When we generate electric power by this system and the power is stored into the battery means it will charge the battery or if required supply to grid.

All panels will be tracked and the shaft which is connects to panels rotated by small direct current motors. Motor are used to rotate shaft of the panel. By sun tracking system we found track of the panel. The top panel also moves east to west and we see a space of top is also utilized by our solar tree.

When the rain set in, the leaves of panel goes to down side by direction of weather instrument. If wind blows fast the panel will go down by instruction of weather station. In Rajasthan, India 800 to 945 watt/meter square direct normal irradiation found in winter session. For better performance we obtain that it gives more than 60% approximate electric power comparison to other solar devices.

My experiment in world gives more electricity comparatively than that other equipment. In the rain it will be possible that we can set panels on 120 to 140 degree to our panels in rain our panel will be cleaned easily controlling of maximum direct current power. By adding devices we can change Direct current to alternative current.

We use SCADA and shut off the long panel maintain and help generation of electricity our tower will be coated by Zinkfor prevention of corrosion. Tower will be made with steel and bolted with four nuts to the ground.

II. CALCULATION

- Panel parameter may be changed according to design.
- We use latest mono crystalline panel.
- Total maximum generation will be 2.5 kilo watt at peak time.

III. LAYOUT DESIGN

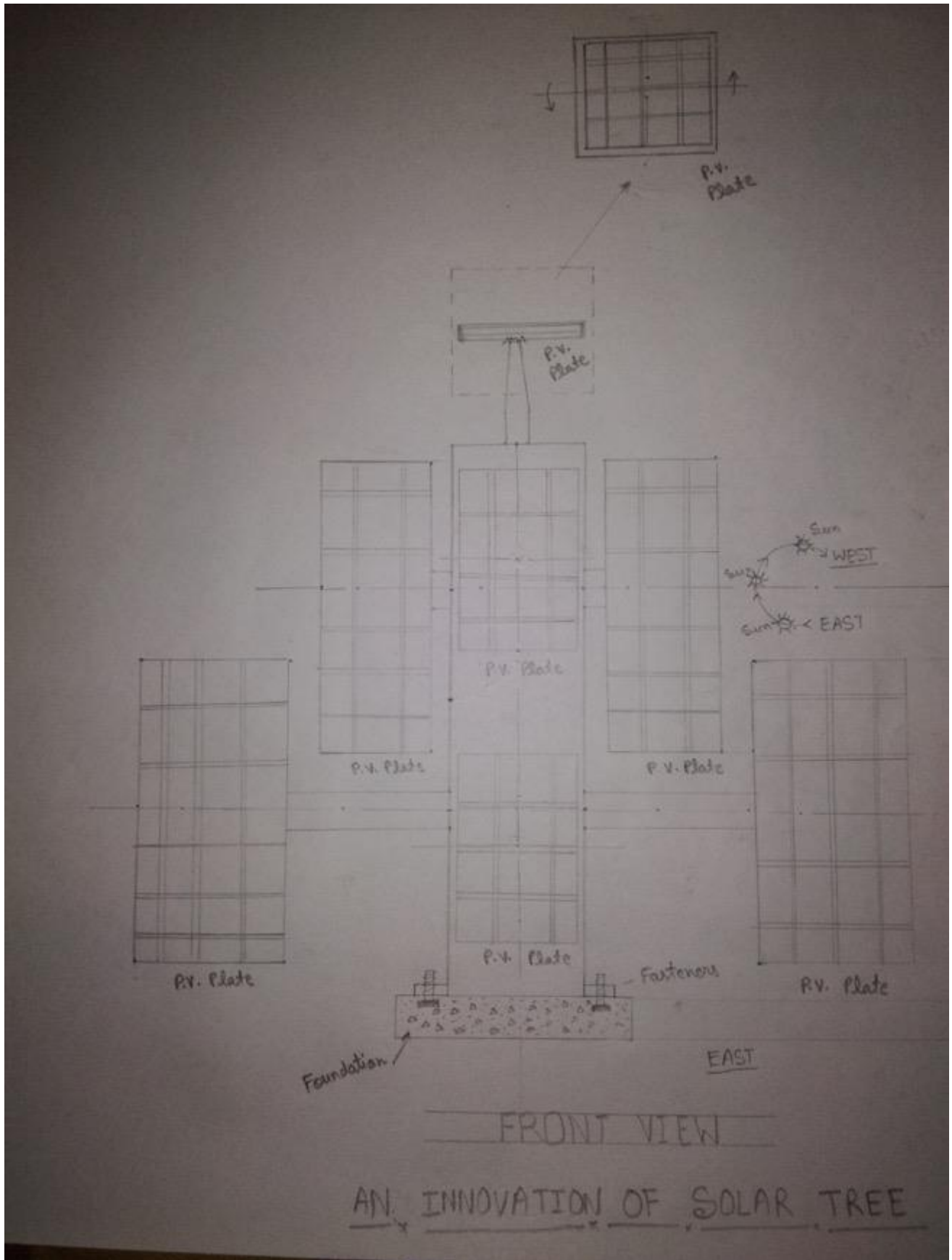


Fig 1 Front View

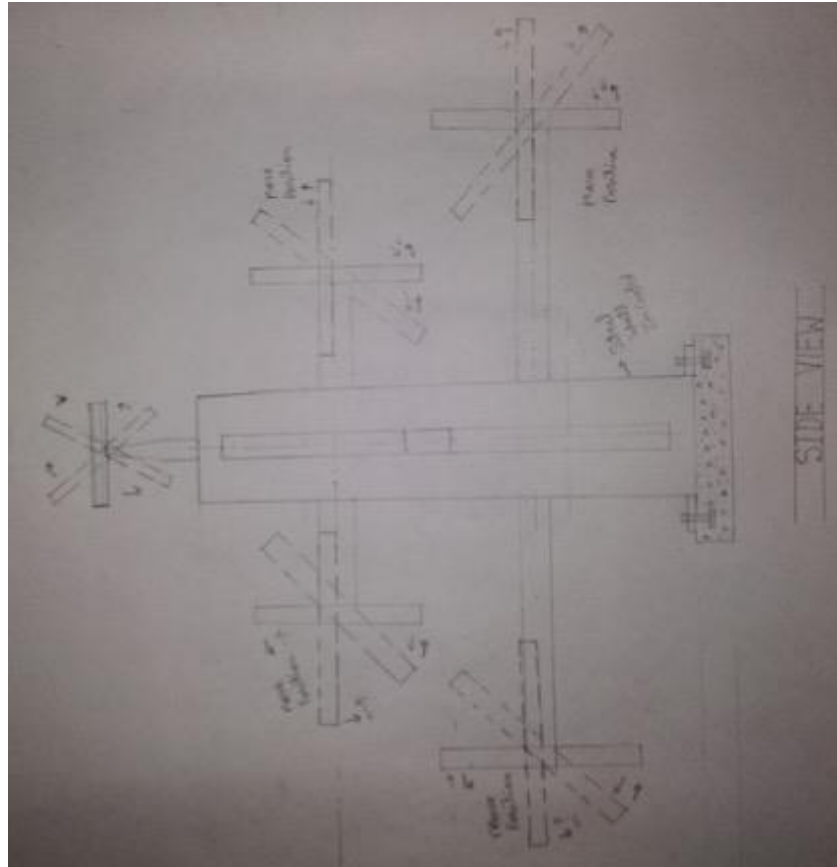


Fig 2 Side View

IV. IMAGES

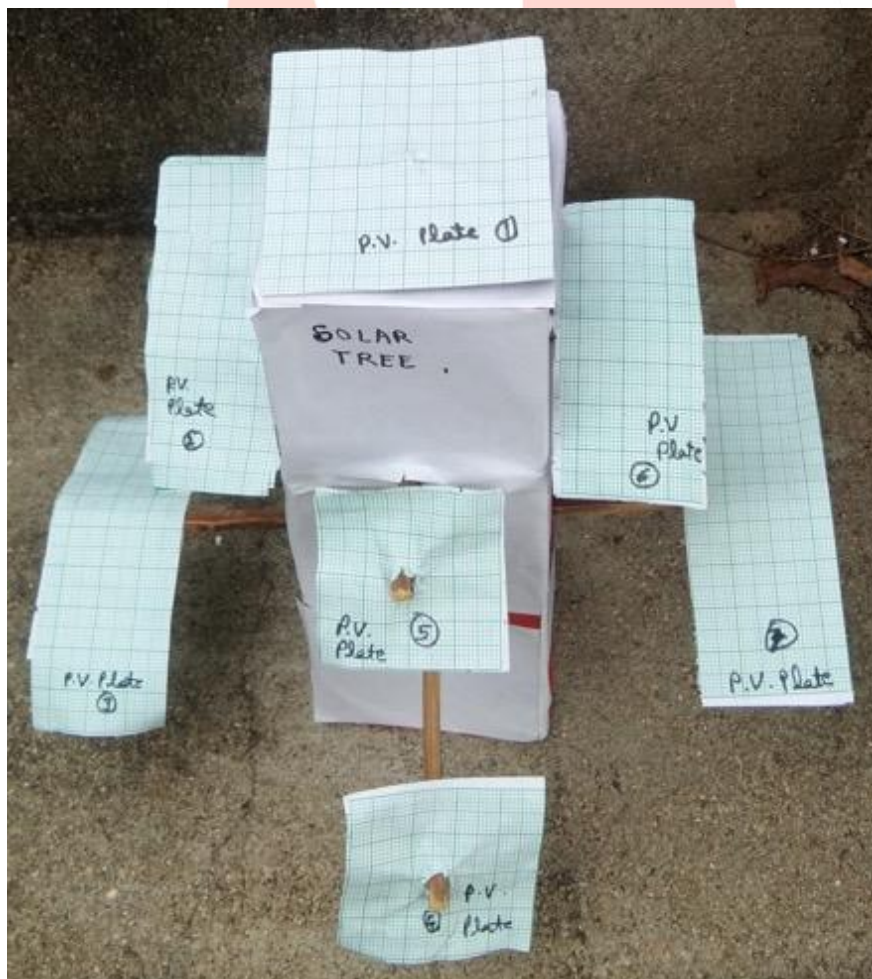


Fig 3



Fig 4

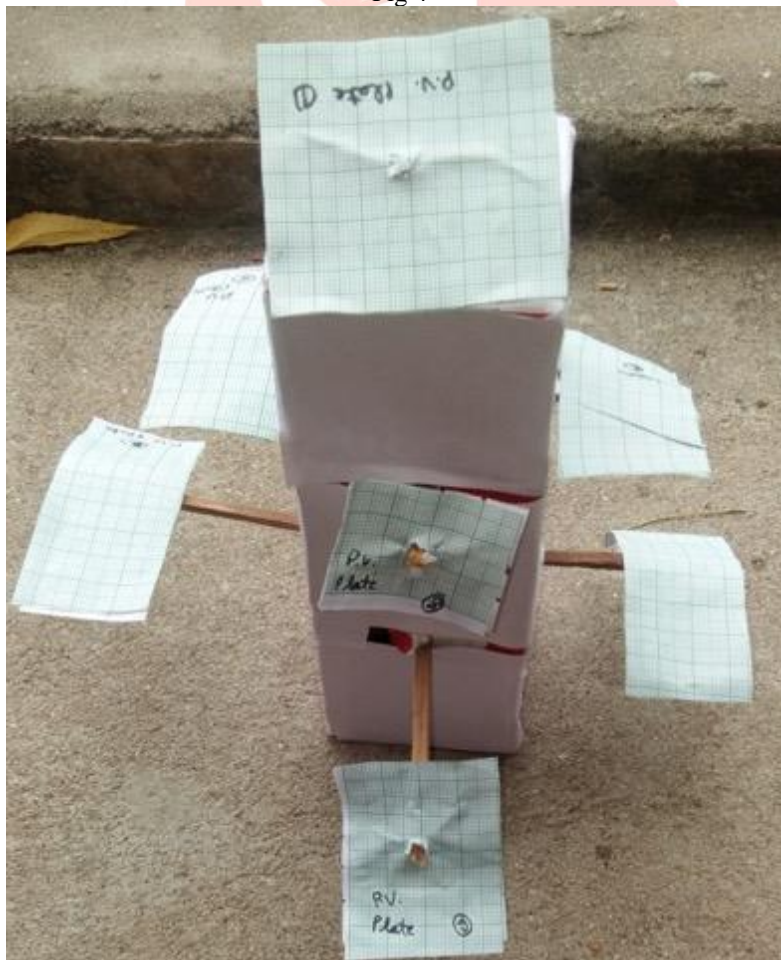


Fig 5