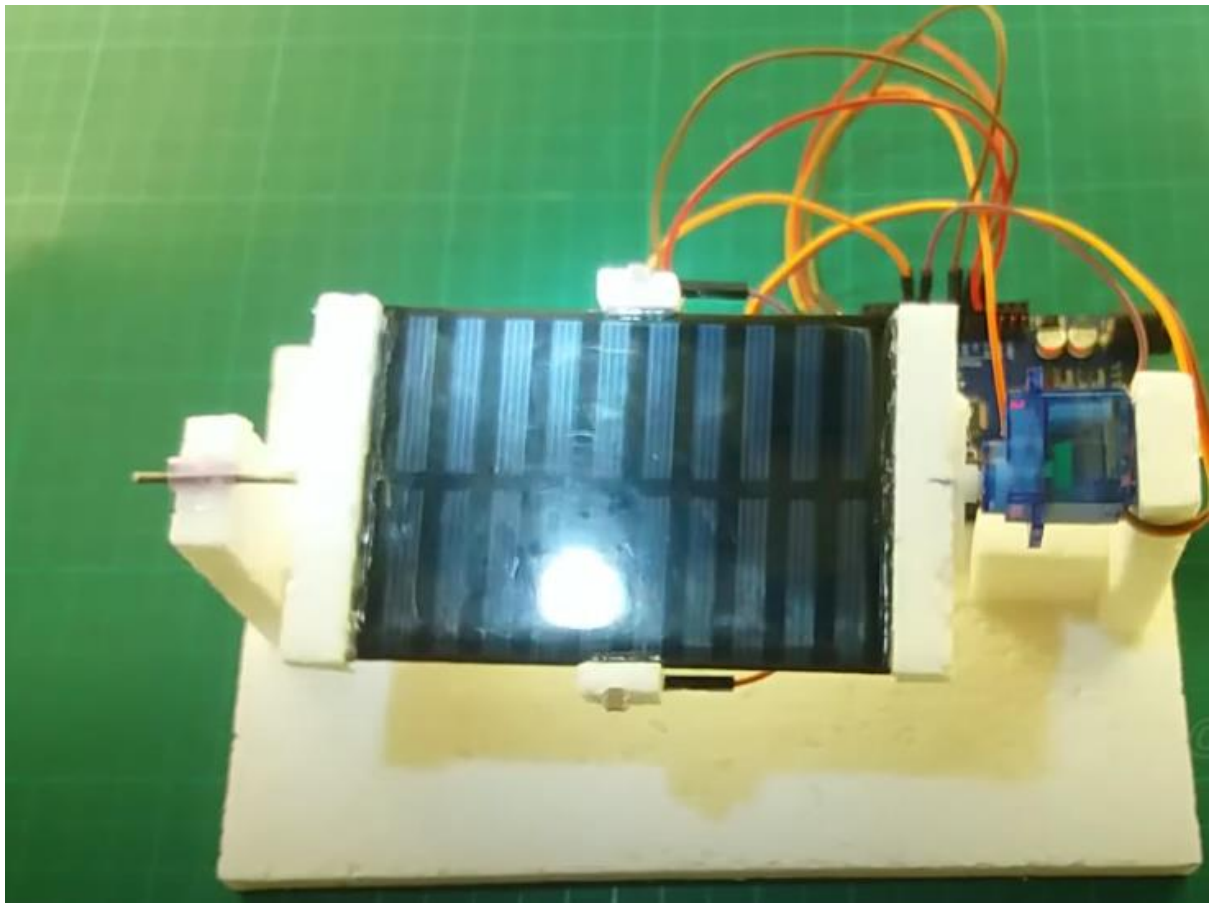


**SUN TRACKING
AND
AUTOMATICS SOLAR PANEL POSITION
ADJUSTMENT SYSTEM
USING ARDUINO**



In this project i have made a automatic solar panel position adjustment system which adjust its position based on the sun movement to produce maximum electricity using ardrino and LDR sensor

Also, it moves through the dual axis. I used one servo motor and two LDR sensors for that.

Component used :

Arduino UNO board x 1

Solar panel x 1

SG90 servo motor x 1

LDR sensor x 2

10k resistor x 2

Jumper wires

Rigifoam / Foam board / Cardboard

Procedure:-

1. Take the base cardboard.
2. Attack the servo motor stand
3. Place the servo motor
4. The attach the solar panel to the servo motor
5. Attach the 10k resistor to the LDR sensor
6. Connect the servo motor to the Uno Board using jumper wire
7. Connect the ldr sensor to uno board
8. After programming the UNO board connect to power supply .
9. automatic solar panel position adjustment system is ready

```
/*Solar tracking system code
```

```
*/
```

```
//Include the servo motor library
```

```
#include <Servo.h>
```

```
//Define the LDR sensor pins
```

```
#define LDR1 A0
```

```
#define LDR2 A1
```

```
//Define the error value. You can change it as you like
```

```
#define error 10
```

```
//Starting point of the servo motor
```

```
int Spoint = 90;
```

```
//Create an object for the servo motor
```

```
Servo servo;
```

```
void setup() {
```

```
//Include servo motor PWM pin
```

```
servo.attach(11);
```

```
//Set the starting point of the servo
```

```

servo.write(Spoint);

delay(1000);
}

void loop() {

//Get the LDR sensor value
int ldr1 = analogRead(LDR1);

//Get the LDR sensor value
int ldr2 = analogRead(LDR2);

//Get the difference of these values
int value1 = abs(ldr1 - ldr2);
int value2 = abs(ldr2 - ldr1);

//Check these values using a IF condition
if ((value1 <= error) || (value2 <= error)) {

} else {
    if (ldr1 > ldr2) {
        Spoint = --Spoint;
    }
    if (ldr1 < ldr2) {
        Spoint = ++Spoint;
    }
}

//Write values on the servo motor
servo.write(Spoint);

delay(80);
}

```