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/* MPPT algorithms for solar panel * /

#define set_bit(sfr, bit) (sfr |= (1<<bit))
#define clear_bit(sfr,bit) (sfr&=~(1<<bit))


int output_pin=9

//Variables:

int DutyA=6;

int DA;


float VoltageAa;

float VoltageAb=17.2; // Voltage Sensor A connected to analog
pinA0

float CurrentA; // Current Sensor A connected to analog pin A1

float PAa

float PAb=10


int Step =1; //steps to in

int val; //variable to store the read value


void setup() {

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pinMode( output_pin, OUTPUT);

// put your setup code here, to run once;

setup_timer2();


Serial.begin(9600);

//Serial.begin(115200)


void loop() {

// put your main code here, to run repeatedly:

PAa = PAb;

VoltageAa = VoltageAb;


VoltageAb = analogRead(A0) * (5.0 / 1023.0)*((Z1A+Z2A)/Z2A);
CurrentA = (511-abs(analogRead(A1))) * (4.902 / 1023.0);


PAb = (VoltageAb * CurrentA);

if (PAa < PAb && VoltageAa < VoltageAb)

{

DutyA = DutyA - Step;

}

else if (PAa < PAb && VoltageAa > VoltageAb)

```

```
{  
DutyA = DutyA + Step;  
}  
else if (PAa > PAb && VoltageAa < VoltageAb)  
{  
DutyA = DutyA + Step;  
}  
else if (PAa > PAb && VoltageAa > VoltageAb)  
{  
DutyA = DutyA - Step;  
}  
  
//DA=floor(DutyA /255) *16);
```