MPPT CONTROLLER CODE

```matlab
function Dref = mppt(V,I)
Dref= 0.42;
Dmax=0.9;
Dmin=0.1;
delDref=0.00008;

persistent Vold Pold Drefold

if(isempty(Vold))
    Vold =0;
    Pold=0;
    Drefold=Dref;
end
P=V*I;
delv= V-Vold;
delp=P-Pold;

if delp>0
    if delv>0
        Dref=Drefold- delDref;
    else
        Dref=Drefold + delDref;
    end
end
if delp<0
    if delv>0
            Dref =Drefold + delDref;
    else
        Dref =Drefold - delDref;
    end
end

if Dref >= Dmax || Dref <= Dmin
    Dref=Drefold;
end

Drefold =Dref;
Pold= P;
Vold= V;
```