```
Initial Parameters...
R(load) = 50 \text{ ohms}
r = 1.00
w = 0.90
_____
INITIAL Particle 1 :: pos(duty) = 0.90000000
                                          fitness (Output Power) = 9.46119258
INITIAL Particle 2 :: pos(duty) = 0.30000000 fitness(Output Power) = 70.26431492
INITIAL Particle 3 :: pos(duty) = 0.65000000 fitness(Output Power) = 115.35205430
______
++++++++++++++Start of Iterations++++++++++++
_____
_____
+++++++++ Irrediance = 800 W/sqm +++++++++
______
Iteration No: 1
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.1250
   0.1750
Particle 1 :: pos(duty) = 0.77500000 fitness(Output Power) = 48.08948135
Particle 2 :: pos(duty) = 0.47500000 fitness(Output Power) = 114.19626132
Particle 3 :: pos(duty) = 0.65000000
                                   fitness(Output Power) = 115.35205430
Updated best Fitness Position = 0.65000000
Iteration No: 2
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.1750
   0.2450
Particle 1 :: pos(duty) = 0.60000000
                                   fitness(Output Power) = 139.23812244
            pos(duty) = 0.72000000
Particle 2 ::
                                    fitness(Output Power) = 74.45358101
Particle 3 :: pos(duty) = 0.65000000
                                    fitness(Output Power) = 115.35205430
Updated best Fitness Position = 0.60000000
_____
Iteration No: 3
c1 = 0.50000000 c2 = 0.50000000
velocity =
```

```
-0.1575
   0.0380
  -0.0250
Particle 1 :: pos(duty) = 0.44250000 fitness(Output Power) = 104.20370004
Particle 2 :: pos(duty) = 0.75800000
                                        fitness(Output Power) = 55.63087676
Particle 3 ::
             pos(duty) = 0.62500000 fitness(Output Power) = 129.63513977
Updated best Fitness Position = 0.60000000
_____
Iteration No: 4
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0157
  -0.1863
  -0.0350
Particle 1 :: pos(duty) = 0.45825000 fitness(Output Power) = 108.93487365
Particle 2 :: pos(duty) = 0.57170000 fitness(Output Power) = 141.01729650
Particle 3 :: pos(duty) = 0.59000000 fitness(Output Power) = 140.96539378
Updated best Fitness Position = 0.57170000
Iteration No: 5
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0709
  -0.1677
  -0.0406
Particle 1 :: pos(duty) = 0.52915000 fitness(Output Power) = 131.69874213
Particle 2 :: pos(duty) = 0.40403000 fitness(Output Power) = 93.42537698
Particle 3 :: pos(duty) = 0.54935000 fitness(Output Power) = 137.19323135
Updated best Fitness Position = 0.57170000
Iteration No: 6
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0851
   0.0168
  -0.0051
```

```
Particle 1 ::
             pos(duty) = 0.61423500
                                         fitness(Output Power) = 134.58856928
Particle 2 :: pos(duty) = 0.42079700
                                         fitness(Output Power) = 97.80482779
               pos(duty) = 0.54426500
Particle 3 ::
                                         fitness(Output Power) = 135.91975402
Updated best Fitness Position = 0.59000000
_____
Iteration No: 7
c1 = 0.50000000
                 c2 = 0.50000000
velocity =
   0.0645
   0.0997
   0.0412
Particle 1 :: pos(duty) =
                           0.67869400
                                         fitness(Output Power) = 97.85145982
Particle 2 :: pos(duty)=
                          0.52048880 fitness(Output Power) = 129.01035041
Particle 3 :: pos(duty) = 0.58542350 fitness(Output Power) = 141.32934764
Updated best Fitness Position = 0.58542350
Iteration No: 8
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0209
   0.1222
   0.0370
Particle 1 :: pos(duty) = 0.65784235 fitness(Output Power) = 110.56501799
              pos(duty) = 0.64267877
                                        fitness(Output Power) = 119.76075271
Particle 2 ::
Particle 3 ::
             pos(duty)=
                          0.62246615
                                        fitness(Output Power) = 130.89262945
Updated best Fitness Position = 0.58542350
Iteration No: 9
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0550
   0.0202
  -0.0037
Particle 1 ::
             pos(duty) = 0.60286644 fitness(Output Power) = 138.52041821
Particle 2 :: pos(duty) = 0.66292712 fitness(Output Power) = 107.42288166
Particle 3 :: pos(duty) = 0.61876189 fitness(Output Power) = 132.62573082
```

```
Updated best Fitness Position = 0.60286644
Iteration No: 10
c1 = 0.50000000
                 c2 = 0.50000000
velocity =
  -0.0495
  -0.0830
  -0.0113
Particle 1 ::
             pos(duty)=
                         0.55338812
                                        fitness(Output Power) = 138.10800287
Particle 2 :: pos(duty) = 0.57990114 fitness(Output Power) = 141.44117784
Particle 3 :: pos(duty) = 0.60748032 fitness(Output Power) = 137.12091014
Updated best Fitness Position = 0.57990114
Iteration No: 11
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0065
  -0.0747
  -0.0239
Particle 1 :: pos(duty) = 0.54685330 fitness(Output Power) = 136.55705190
Particle 2 :: pos(duty) = 0.50517775 fitness(Output Power) = 124.14655000
             pos(duty) = 0.58353733
Particle 3 ::
                                        fitness(Output Power) = 141.40330401
Updated best Fitness Position = 0.57990114
_____
Iteration No: 12
c1 = 0.50000000
                 c2 = 0.50000000
velocity =
   0.0386
   0.0075
  -0.0234
Particle 1 :: pos(duty) = 0.58550245 fitness(Output Power) = 141.32356341
Particle 2 :: pos(duty) = 0.51265009 fitness(Output Power) = 126.50523779
Particle 3 :: pos(duty) = 0.56017053 fitness(Output Power) = 139.43724336
```

```
_____
Iteration No: 13
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0338
   0.0422
   0.0023
Particle 1 :: pos(duty) = 0.61930412
                                        fitness(Output Power) = 132.38800891
Particle 2 :: pos(duty) = 0.55481881 fitness(Output Power) = 138.38338869
Particle 3 :: pos(duty) = 0.56250721
                                       fitness(Output Power) = 139.82978086
Updated best Fitness Position = 0.58550245
_____
Iteration No: 14
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0034
   0.0533
   0.0136
Particle 1 :: pos(duty) = 0.61592396 fitness(Output Power) = 133.88525516
Particle 2 :: pos(duty) = 0.60811248
                                       fitness(Output Power) = 136.90173029
             pos(duty) = 0.57610784
Particle 3 ::
                                        fitness(Output Power) = 141.32658945
Updated best Fitness Position = 0.57610784
Iteration No: 15
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0230
   0.0053
   0.0122
Particle 1 :: pos(duty) = 0.59297375
                                        fitness(Output Power) = 140.58298140
Particle 2 :: pos(duty) = 0.61342763 fitness(Output Power) = 134.93248993
Particle 3 :: pos(duty) = 0.58834841 fitness(Output Power) = 141.11831210
Updated best Fitness Position = 0.57610784
Iteration No: 16
c1 = 0.50000000 c2 = 0.50000000
velocity =
```

```
-0.0291
  -0.0432
  -0.0012
Particle 1 :: pos(duty) = 0.56388561
                                         fitness(Output Power) = 140.05641507
Particle 2 ::
             pos(duty) = 0.57024696
                                         fitness(Output Power) = 140.88199780
Particle 3 :: pos(duty) = 0.58712435 fitness(Output Power) = 141.22100141
Updated best Fitness Position = 0.58712435
_____
Iteration No: 17
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0000
  -0.0304
  -0.0011
Particle 1 :: pos(duty) = 0.56386973
                                         fitness(Output Power) = 140.05641507
Particle 2 :: pos(duty) = 0.53982306 fitness(Output Power) = 134.74502021
Particle 3 :: pos(duty) = 0.58602270 fitness(Output Power) = 141.29264423
Updated best Fitness Position = 0.58602270
Iteration No: 18
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0111
   0.0109
  -0.0010
Particle 1 :: pos(duty) = 0.57493192
                                         fitness(Output Power) = 141.26229926
Particle 2 :: pos(duty) = 0.55075332 fitness(Output Power) = 137.51329028
Particle 3 :: pos(duty) = 0.58503122
                                        fitness(Output Power) = 141.34589264
Updated best Fitness Position = 0.58503122
Iteration No: 19
c1 = 0.50000000
                   c2 = 0.50000000
velocity =
   0.0150
   0.0270
   -0.0009
```

```
Particle 1 :: pos(duty) = 0.58993754
                                  fitness(Output Power) = 140.96539378
Particle 2 ::
           pos(duty) = 0.57772950
                                  fitness (Output Power) = 141.39428929
Particle 3 :: pos(duty) = 0.58413888
                                  fitness(Output Power) = 141.38400521
Updated best Fitness Position = 0.57772950
_____
Iteration No: 20
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0001
  0.0243
  -0.0040
Particle 1 :: pos(duty) = 0.58983577 fitness(Output Power) = 140.97641155
                                 fitness(Output Power) = 138.73000106
Particle 2 :: pos(duty) = 0.60200807
            pos(duty) = 0.58013109
Particle 3 ::
                                 fitness(Output Power) = 141.44315731
Updated best Fitness Position = 0.58013109
_____
Initial Parameters...
R(load) = 50 \text{ ohms}
r = 1.00
w = 0.90
_____
INITIAL Particle 1 :: pos(duty) = 0.58983577
                                        fitness(Output Power) = 88.54262013
                                       fitness(Output Power) = 83.86898670
INITIAL Particle 2 :: pos(duty) = 0.60200807
                                        fitness(Output Power) = 92.08553489
INITIAL Particle 3 ::
                  pos(duty)=
                             0.58013109
_____
_____
_____
Iteration No: 1
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0049
  -0.0012
  -0.0036
Particle 1 :: pos(duty) = 0.58489184 fitness(Output Power) = 90.36414461
Particle 2 :: pos(duty) = 0.60078101
                                 fitness(Output Power) = 84.33691796
                                fitness(Output Power) = 93.30974021
           pos(duty) = 0.57652407
Particle 3 ::
```

```
Updated best Fitness Position = 0.57652407
_____
Iteration No: 2
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0086
  -0.0132
  -0.0032
Particle 1 :: pos(duty) = 0.57625841 fitness(Output Power) = 93.42214618
Particle 2 :: pos(duty) = 0.58754818 fitness(Output Power) = 89.38344264
Particle 3 :: pos(duty) = 0.57327776 fitness(Output Power) = 94.42134459
Updated best Fitness Position = 0.57327776
_____
Iteration No: 3
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0093
  -0.0190
  -0.0029
Particle 1 :: pos(duty) = 0.56699801 fitness(Output Power) = 96.39440611
                                      fitness(Output Power) = 95.92561914
             pos(duty) = 0.56850343
Particle 2 ::
Particle 3 :: pos(duty) = 0.57035608 fitness(Output Power) = 95.34253667
Updated best Fitness Position = 0.56699801
_____
Iteration No: 4
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0083
  -0.0179
  -0.0043
Particle 1 :: pos(duty) = 0.55866364 fitness(Output Power) = 98.70009637
Particle 2 :: pos(duty) = 0.55061044 fitness(Output Power) = 100.54357854
             pos(duty) = 0.56604753 fitness(Output Power) = 96.67699027
Particle 3 ::
```

```
Iteration No: 5
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0115
  -0.0161
  -0.0116
Particle 1 :: pos(duty) = 0.54713611 fitness(Output Power) = 101.20041271
Particle 2 :: pos(duty) = 0.53450675 fitness(Output Power) = 102.87508316
Particle 3 :: pos(duty) = 0.55445129 fitness(Output Power) = 99.72321300
Updated best Fitness Position = 0.53450675
_____
Iteration No: 6
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0167
  -0.0145
  -0.0204
Particle 1 :: pos(duty) = 0.53044666
                                        fitness(Output Power) = 103.17448285
             pos(duty) = 0.52001343
Particle 2 ::
                                        fitness(Output Power) = 103.44445001
Particle 3 :: pos(duty) = 0.53404241 fitness(Output Power) = 102.91532390
Updated best Fitness Position = 0.52001343
Iteration No: 7
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0202
  -0.0130
  -0.0254
Particle 1 :: pos(duty) = 0.51020954 fitness(Output Power) = 103.11523230
Particle 2 :: pos(duty) = 0.50696945 fitness(Output Power) = 102.89291251
Particle 3 :: pos(duty) = 0.50865993 fitness(Output Power) = 103.01183209
Updated best Fitness Position = 0.52001343
_____
Iteration No: 8
                 c2 = 0.50000000
c1 = 0.50000000
```

```
velocity =
  -0.0032
   0.0013
  -0.0172
Particle 1 :: pos(duty) = 0.50701664 fitness(Output Power) = 102.90551855
Particle 2 :: pos(duty) = 0.50827385 fitness(Output Power) = 102.98930725
Particle 3 :: pos(duty) = 0.49149245 fitness(Output Power) = 101.25622488
Updated best Fitness Position = 0.53044666
Iteration No: 9
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0206
   0.0123
   0.0126
Particle 1 :: pos(duty) = 0.52757305 fitness(Output Power) = 103.31864539
Particle 2 :: pos(duty) = 0.52053421
                                       fitness(Output Power) = 103.44655506
Particle 3 :: pos(duty) = 0.50410256 fitness(Output Power) = 102.66896456
Updated best Fitness Position = 0.52053421
_____
Iteration No: 10
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0150
   0.0110
   0.0196
Particle 1 :: pos(duty) = 0.54255440 fitness(Output Power) = 101.93318736
Particle 2 :: pos(duty) = 0.53156854 fitness(Output Power) = 103.10487255
Particle 3 :: pos(duty) = 0.52366749 fitness(Output Power) = 103.42826240
Updated best Fitness Position = 0.52053421
_____
Iteration No: 11
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0050
  -0.0011
```

0.0160 Particle 1 :: pos(duty) = 0.53753685 fitness (Output Power) = 102.58313449 Particle 2 :: pos(duty) = 0.53046511 fitness(Output Power) = 103.17448285fitness (Output Power) = 102.32476260 Particle 3 :: pos(duty) = 0.53970929 Updated best Fitness Position = 0.52366749 Iteration No: 12 c1 = 0.50000000c2 = 0.50000000velocity = -0.0115 -0.0044 -0.0016 Particle 1 :: pos(duty) = 0.52608637 fitness(Output Power) = 103.37358809 Particle 2 :: pos(duty) = 0.52607321 fitness(Output Power) = 103.37358809 Particle 3 :: pos(duty) = 0.53810511 fitness(Output Power) = 102.52119659 Updated best Fitness Position = 0.52608637 Iteration No: 13 c1 = 0.50000000 c2 = 0.50000000velocity = -0.0103 -0.0039 -0.0075 Particle 1 :: pos(duty) = 0.51578094 fitness(Output Power) = 103.36250963 Particle 2 :: pos(duty) = 0.52212708 fitness(Output Power) = 103.44447786 Particle 3 :: pos(duty) = 0.53065198 fitness(Output Power) = 103.15963673 Updated best Fitness Position = 0.52212708 Iteration No: 14 c1 = 0.50000000 c2 = 0.50000000velocity = -0.0009 -0.0036 -0.0110 Particle 1 :: pos(duty) = 0.51483184

Particle 2 :: pos(duty) = 0.51857556 fitness(Output Power) = 103.42747166

fitness(Output Power) = 103.33221273

```
Particle 3 :: pos(duty) = 0.51968171
                                        fitness(Output Power) = 103.44127283
Updated best Fitness Position = 0.52212708
_____
Iteration No: 15
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0084
   0.0004
  -0.0087
Particle 1 :: pos(duty) = 0.52325253 fitness(Output Power) = 103.43401070
Particle 2 :: pos(duty) = 0.51893072 fitness(Output Power) = 103.43356396
                          0.51103116 fitness(Output Power) = 103.16128127
Particle 3 ::
             pos(duty)=
Updated best Fitness Position = 0.51968171
_____
Iteration No: 16
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0058
   0.0007
   0.0009
Particle 1 ::
             pos(duty) = 0.52904575
                                        fitness (Output Power) = 103.24962286
Particle 2 :: pos(duty) = 0.51962585 fitness(Output Power) = 103.44127283
                                        fitness(Output Power) = 103.20365042
Particle 3 :: pos(duty) = 0.51189621
Updated best Fitness Position = 0.51962585
Iteration No: 17
                  c2 = 0.50000000
c1 = 0.50000000
velocity =
  -0.0024
   0.0006
   0.0046
Particle 1 :: pos(duty) = 0.52665308
                                        fitness(Output Power) = 103.35244488
              pos(duty) = 0.52025147
Particle 2 ::
                                        fitness (Output Power) = 103.44527026
Particle 3 ::
             pos(duty) = 0.51653958 fitness(Output Power) = 103.38803925
```

```
_____
Iteration No: 18
c1 = 0.50000000
                   c2 = 0.50000000
velocity =
  -0.0054
   0.0006
   0.0060
Particle 1 :: pos(duty) = 0.52129888 fitness(Output Power) = 103.44759378
Particle 2 :: pos(duty) = 0.52081453
                                        fitness(Output Power) = 103.44736838
Particle 3 ::
              pos(duty) = 0.52257456
                                        fitness(Output Power) = 103.44138918
Updated best Fitness Position = 0.52129888
_____
Iteration No: 19
c1 = 0.50000000 c2 = 0.50000000
velocity =
  -0.0048
   0.0007
   0.0048
             pos(duty) = 0.51648010
Particle 1 ::
                                        fitness (Output Power) = 103.38411112
Particle 2 :: pos(duty) = 0.52156346 fitness(Output Power) = 103.44701243
Particle 3 :: pos(duty) = 0.52736820 fitness(Output Power) = 103.32879641
Updated best Fitness Position = 0.52129888
Iteration No: 20
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0005
   0.0002
  -0.0011
Particle 1 :: pos(duty) = 0.51696198 fitness(Output Power) = 103.39550705
Particle 2 :: pos(duty) = 0.52173074 fitness(Output Power) = 103.44654967
Particle 3 ::
                                        fitness(Output Power) = 103.36543428
             pos(duty) = 0.52625100
Updated best Fitness Position = 0.52081453
Initial Parameters...
```

```
R(load) = 50 \text{ ohms}
r = 1.00
w = 0.90
_____
INITIAL Particle 1 :: pos(duty) = 0.51696198
                                       fitness(Output Power) = 141.04825084
INITIAL Particle 2 :: pos(duty) = 0.52173074
                                       fitness (Output Power) = 143.27298669
INITIAL Particle 3 :: pos(duty) = 0.52625100 fitness(Output Power) = 145.19344736
_____
_____
_____
_____
Iteration No: 1
c1 = 0.50000000 c2 = 0.50000000
velocity =
  0.0024
  -0.0008
  -0.0037
Particle 1 :: pos(duty) = 0.51932194 fitness(Output Power) = 142.17277397
Particle 2 :: pos(duty) = 0.52096508 fitness(Output Power) = 142.83579173
Particle 3 :: pos(duty) = 0.52252728 fitness(Output Power) = 143.49014919
Updated best Fitness Position = 0.52625100
_____
Iteration No: 2
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0056
   0.0019
   0.0004
Particle 1 :: pos(duty) = 0.52491044 fitness(Output Power) = 144.56174483
Particle 2 :: pos(duty) = 0.52284367
                                fitness(Output Power) = 143.70635948
Particle 3 ::
           pos(duty) = 0.52289965
                               fitness(Output Power) = 143.70635948
Updated best Fitness Position = 0.52491044
_____
Iteration No: 3
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0050
```

```
0.0027
   0.0013
Particle 1 :: pos(duty) = 0.52994009 fitness(Output Power) = 146.83748141
Particle 2 :: pos(duty) = 0.52556778 fitness(Output Power) = 144.98381012
Particle 3 :: pos(duty) = 0.52424018 fitness(Output Power) = 144.34931026
Updated best Fitness Position = 0.52994009
_____
Iteration No: 4
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0045
   0.0046
   0.0041
Particle 1 :: pos(duty) = 0.53446677
                                       fitness(Output Power) = 149.00425639
Particle 2 :: pos(duty) = 0.53020564 fitness(Output Power) = 147.03890057
Particle 3 :: pos(duty) = 0.52829661 fitness(Output Power) = 146.22780888
Updated best Fitness Position = 0.53446677
Iteration No: 5
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0041
   0.0063
   0.0067
Particle 1 :: pos(duty) = 0.53854078 fitness(Output Power) = 150.88296155
Particle 2 :: pos(duty) = 0.53651027 fitness(Output Power) = 149.95425172
Particle 3 :: pos(duty) = 0.53503248 fitness(Output Power) = 149.19597623
Updated best Fitness Position = 0.53854078
_____
Iteration No: 6
c1 = 0.50000000
                 c2 = 0.50000000
velocity =
   0.0037
   0.0067
   0.0078
```

fitness (Output Power) = 152.50217365

Particle 1 :: pos(duty) = 0.54220740

```
Particle 2 :: pos(duty) = 0.54319970
                                        fitness(Output Power) = 153.02721523
Particle 3 :: pos(duty) = 0.54284891
                                       fitness(Output Power) = 152.85300736
Updated best Fitness Position = 0.54319970
Iteration No: 7
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0038
   0.0060
   0.0072
Particle 1 :: pos(duty) = 0.54600350
                                         fitness(Output Power) = 154.39223145
             pos(duty) = 0.54922018
Particle 2 ::
                                        fitness(Output Power) = 155.86826216
Particle 3 :: pos(duty) = 0.55005909 fitness(Output Power) = 156.18788544
Updated best Fitness Position = 0.55005909
_____
Iteration No: 8
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0054
   0.0058
   0.0065
Particle 1 :: pos(duty) = 0.55144779 fitness(Output Power) = 156.81814516
Particle 2 :: pos(duty) = 0.55505807 fitness(Output Power) = 158.49078494
              pos(duty) = 0.55654826 fitness(Output Power) = 159.22238344
Particle 3 ::
Updated best Fitness Position = 0.55654826
Iteration No: 9
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0075
   0.0060
   0.0058
Particle 1 :: pos(duty) = 0.55889789
                                        fitness(Output Power) = 160.21729304
Particle 2 ::
             pos(duty) = 0.56105727 fitness(Output Power) = 161.31340061
Particle 3 :: pos(duty) = 0.56238851 fitness(Output Power) = 161.84544094
```

```
Iteration No: 10
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0085
   0.0061
   0.0053
Particle 1 :: pos(duty) = 0.56734828
                                       fitness(Output Power) = 164.11204398
Particle 2 :: pos(duty) = 0.56712217
                                        fitness(Output Power) = 163.99146564
Particle 3 :: pos(duty) = 0.56764473 fitness(Output Power) = 164.23200747
Updated best Fitness Position = 0.56764473
_____
Iteration No: 11
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0078
   0.0057
   0.0047
Particle 1 :: pos(duty) = 0.57510187 fitness(Output Power) = 167.55540107
Particle 2 :: pos(duty) = 0.57284186 fitness(Output Power) = 166.50541332
Particle 3 :: pos(duty) = 0.57237534 fitness(Output Power) = 166.28862418
Updated best Fitness Position = 0.57510187
-----
Iteration No: 12
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0070
   0.0063
   0.0056
Particle 1 :: pos(duty) = 0.58208010 fitness(Output Power) = 170.38191101
Particle 2 :: pos(duty) = 0.57911959 fitness(Output Power) = 169.21479793
Particle 3 :: pos(duty) = 0.57799615 fitness(Output Power) = 168.74273779
Updated best Fitness Position = 0.58208010
```

```
Iteration No: 13
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0063
   0.0071
   0.0071
Particle 1 :: pos(duty) = 0.58836050 fitness(Output Power) = 172.83326114
Particle 2 :: pos(duty) = 0.58624980 fitness(Output Power) = 172.01489984
Particle 3 :: pos(duty) = 0.58509685 fitness(Output Power) = 171.62452877
Updated best Fitness Position = 0.58836050
Iteration No: 14
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0057
   0.0075
   0.0080
Particle 1 :: pos(duty) = 0.59401286 fitness(Output Power) = 174.85615739
Particle 2 :: pos(duty) = 0.59372234 fitness(Output Power) = 174.73769341
Particle 3 :: pos(duty) = 0.59311931
                                       fitness(Output Power) = 174.55697645
Updated best Fitness Position = 0.59401286
Iteration No: 15
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0051
   0.0069
   0.0077
Particle 1 :: pos(duty) = 0.59909999
                                       fitness(Output Power) = 176.44746728
             pos(duty) = 0.60059289
Particle 2 ::
                                        fitness (Output Power) = 176.90424960
Particle 3 :: pos(duty) = 0.60078630 fitness(Output Power) = 176.94799799
Updated best Fitness Position = 0.60078630
_____
Iteration No: 16
c1 = 0.50000000 c2 = 0.50000000
velocity =
```

```
0.0054
   0.0063
   0.0069
Particle 1 :: pos(duty) = 0.60452156 fitness(Output Power) = 177.93235573
Particle 2 :: pos(duty) = 0.60687309
                                        fitness(Output Power) = 178.45725438
Particle 3 ::
             pos(duty) = 0.60768659 fitness(Output Power) = 178.63408334
Updated best Fitness Position = 0.60768659
_____
Iteration No: 17
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0065
   0.0061
   0.0062
Particle 1 :: pos(duty) = 0.61098348 fitness(Output Power) = 179.25967359
Particle 2 :: pos(duty) = 0.61293202 fitness(Output Power) = 179.55344339
Particle 3 :: pos(duty) = 0.61389685 fitness(Output Power) = 179.68647610
Updated best Fitness Position = 0.61389685
Iteration No: 18
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0073
   0.0059
   0.0056
Particle 1 :: pos(duty) = 0.61825590 fitness(Output Power) = 180.10223255
Particle 2 :: pos(duty) = 0.61886747 fitness(Output Power) = 180.13468474
Particle 3 :: pos(duty) = 0.61948609 fitness(Output Power) = 180.16658078
Updated best Fitness Position = 0.61948609
Iteration No: 19
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0072
   0.0057
   0.0050
```

```
Particle 1 :: pos(duty) = 0.62541617 fitness(Output Power) = 180.11515958
Particle 2 :: pos(duty) = 0.62451869 fitness(Output Power) = 180.16328945
Particle 3 :: pos(duty) = 0.62451640
                                        fitness(Output Power) = 180.16328945
Updated best Fitness Position = 0.61948609
-----
Iteration No: 20
c1 = 0.50000000 c2 = 0.50000000
velocity =
   0.0035
   0.0026
  -0.0005
Particle 1 :: pos(duty) = 0.62889537 fitness(Output Power) = 179.78816775
Particle 2 :: pos(duty) = 0.62708848 fitness(Output Power) = 179.98674573
Particle 3 :: pos(duty) = 0.62401337 fitness(Output Power) = 180.18386976
Updated best Fitness Position = 0.62401337
```

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