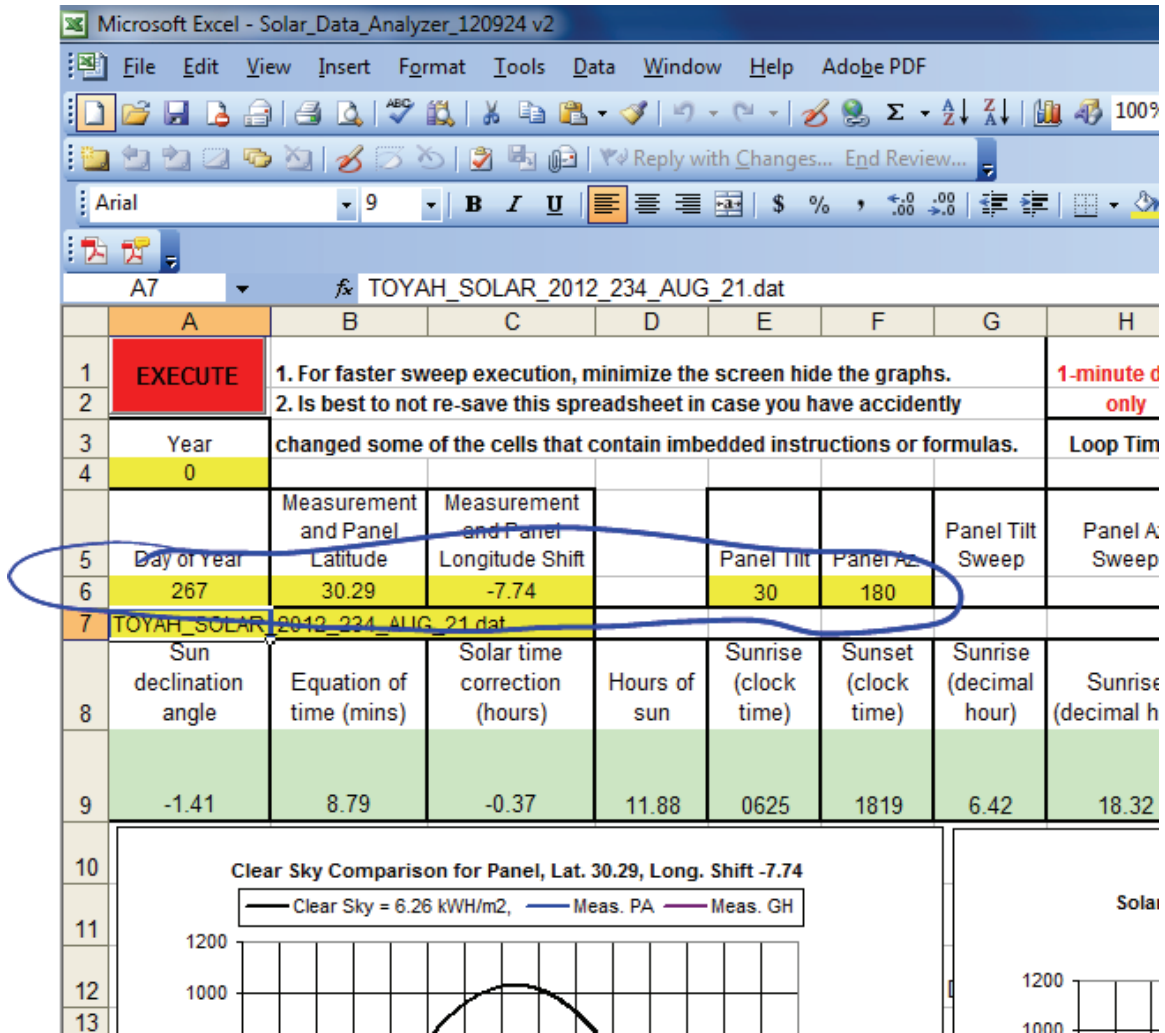




- If you do happen to press the red execute button, then simply "stop" the GUI.
- In the yellow boxes on Line 6, enter  
 Day of Year = choose the day of year you are considering (e.g. day 267 = Sept 24, ignoring leap year)  
 Latitude = 30.29 (for Austin)  
 Longitude shift = -7.74 (since Austin is 97.74 degrees, it has a time delay of 7.74 degrees from the eastern edge of the central standard time zone)  
 Panel tilt = 45 (panels atop ENS)  
 Panel azimuth = 190 (panels atop ENS)



- You can read information of expected solar measurements on a clear day on the right of the program.

Microsoft Excel - Solar\_Data\_Analyzer\_120924 v2

File Edit View Insert Format Tools Data Window Help Adobe PDF

75%

Arial 9

TOYAH\_SOLAR\_2012\_234\_AUG\_21.dat

|    |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
|----|---|---|---------------------------------------|--------------|---|---------------------|------------------------|---------------------------------|--|-----|-------------------------|--------------------|--------------|
| 1  | EXECUTE   | 1. For faster sweep execution, minimize the screen hide the graph |                                       | minute data  | Tracking Method                             | Meas. GH            | Clear Sky PA           | Calc. Method                    | Meas. PA   |     | Clear Sky Apparent      | Clear Sky Optical  | Clear        |
| 2  |   | 2. Is best to not re-save this spreadsheet in case you have accid |                                       | only         | 0 = None                                    | kVHh/m2             | kVHh/m2                | kVHh/m2                         | kVHh/m2  |     | Extraterrest            | Depth              |              |
| 3  | Year  | changed some of the cells that contain imbedded instructions on   |                                       | Loop Timer   | 1 = Single Axis                             | One Day             | One Day                | One Day                         | One Day  |     | Flux A                  |                    |              |
| 4  | 0   |   |                                       |              | 2 = Tilt Only                               | 0.00                | 7.37                   | 0.00                            | 0.00   |     |                         |                    |              |
| 5  | Day of Year   | Measurement and Panel Latitude                                    | Measurement and Panel Longitude Shift | Panel Tilt   | Panel Az                                    | Panel Tilt Sweep    | Panel Az Sweep         | 3 = Sun Following               |  |     | Master's Eq (7.22)      | Master's Eq (7.23) | Master (7.2) |
| 6  | 2012  | 30.29   | -7.74                                 | 30           | 180   |                     |                        |                                 |  |     |                         |                    |              |
| 7  | TOYAH SOLAR   | 2012_234_AUG_21.dat   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 8  | Sun declination angle                                     | Equation of time (mins)   | Solar time correction (hours)         | Hours of sun | Sunrise (clock time)                        | Sunset (clock time) | Sunrise (decimal hour) | Solar Noon (decimal clock time) | Solar Noon (clock time)  |     | Incident Angle for this |                    |              |
| 9  | -1.41   | 8.73  | -0.37                                 | 11.88        | 0625  | 1813                | 6.42                   | 18.32                           | 12.37  | Sun |                         |                    |              |
| 10 | Clear Sky Comparison for Panel, Lat. 30.29, Loag. Shift - |   |                                       |              | Solar Measurements, File UTAUSTIN_SOLAR.dat |                     |                        |                                 | Clear Sky Predictions for Panel, Lat. 30.29, Loag. Shift -7.74 |     |                         |                    |              |
| 11 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 12 | 0 12 0.200 -0.169 182.542 -0.875                          |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 13 | Clear Sky Comparison for Horiz. Panel                     |   |                                       |              | Solar Measurements, File UTAUSTIN_SOLAR.dat |                     |                        |                                 |  |     |                         |                    |              |
| 14 | Total = 3.34 kVHh/m2, Meas. GH                            |   |                                       |              | GHavg GHmin GHmax DHmin DHmax               |                     |                        |                                 |  |     |                         |                    |              |
| 15 | 1200  |   |                                       |              | 1200  |                     |                        |                                 |  |     |                         |                    |              |
| 16 | 9000  |   |                                       |              | 9000  |                     |                        |                                 |  |     |                         |                    |              |
| 17 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 18 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 19 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 20 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 21 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 22 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 23 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 24 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 25 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 26 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 27 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 28 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 29 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 30 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |
| 31 |   |   |                                       |              |   |                     |                        |                                 |  |     |                         |                    |              |

Pred. Using UTAUSTIN\_SOLAR.dat, Lat. 30.29, Loag. Shift

NOTE: Thank you to Prof. Mack Grady for the development of this Excel program.