photobiologySun Version 0.2.1
Catalogue of Solar Spectra

Pedro J. Aphalo

March 8, 2015

1   Introduction

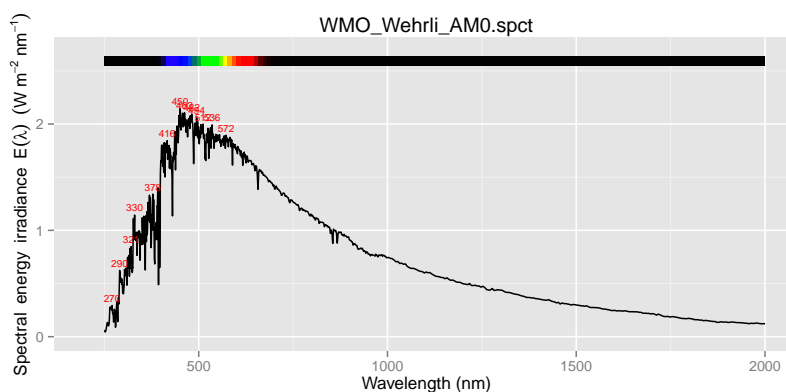The plots show the solar spectral irradiance data included in the package.

```
library(ggplot2)
library(photobiology)
library(photobiologySun)
library(photobiologygg)
```

```
options(photobiology.plot.annotations =
           c("boxes", "labels", "colour.guide", "peaks", "title"))
```
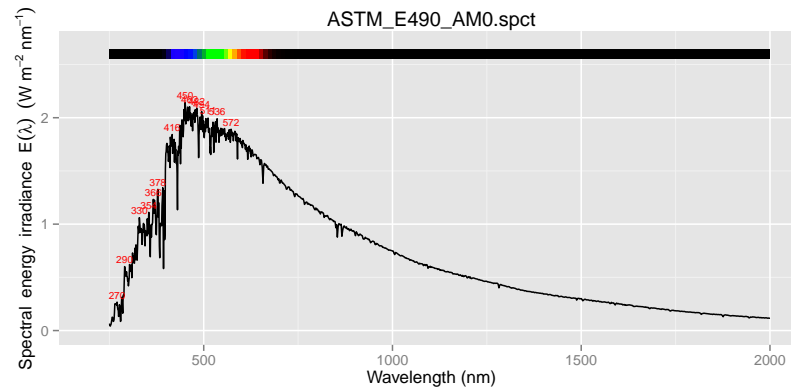
We define a function to do the actual plotting so as to not repeat code, and to make changes easier in the future.
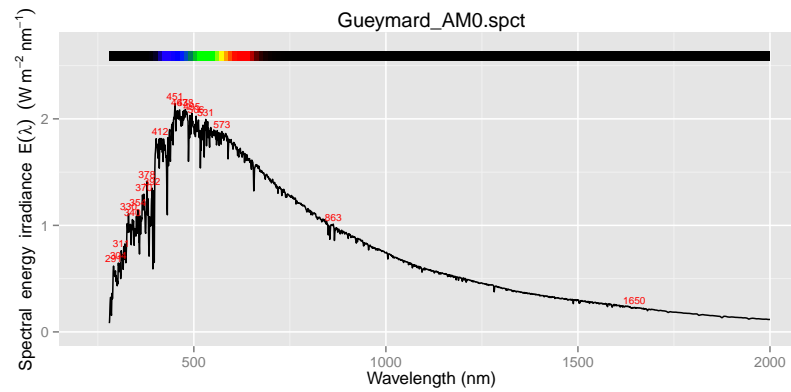
2   Extraterrestrial solar spectra

```
plot(WMO_Wehrli_AM0.spct, range=c(250, 2000), w.band = NULL)
```

```
plot(ASTM_E490_AM0.spct, range=c(250, 2000), w.band = NULL)
```
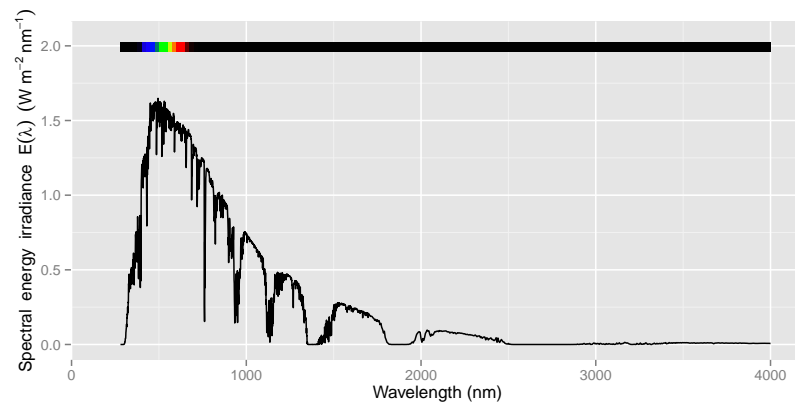
ASTM_E490_AM0.spct


```
plot(Gueymard_AM0.spct, range=c(250, 2000), w.band = NULL)
```
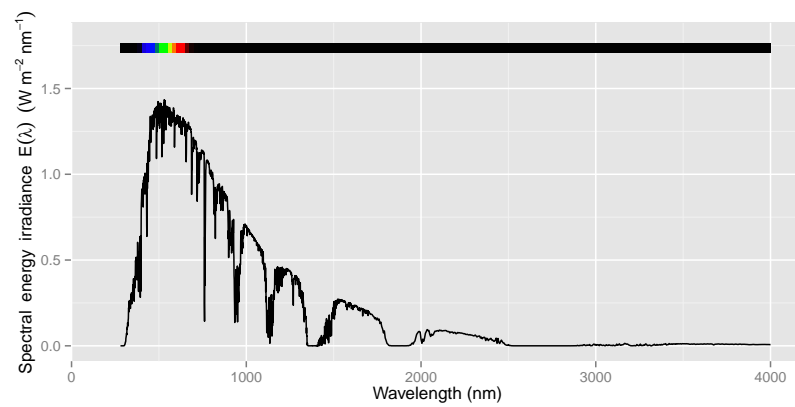
Gueymard_AM0.spct

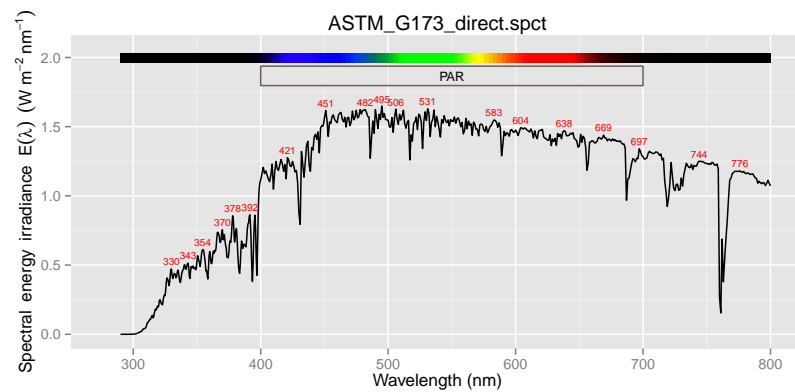# 3 Standard terrestrial solar spectra

```
plot(ASTM_G173_direct.spct, annotations="colour.guide")
```
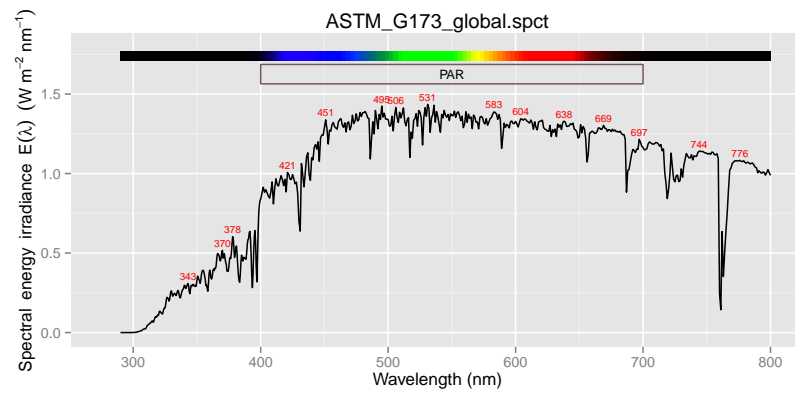
```
plot(ASTM_G173_global.spct, annotations="colour.guide")
```



```
plot(ASTM_G173_direct.spct, range=c(290, 800), w.band=PAR())
```
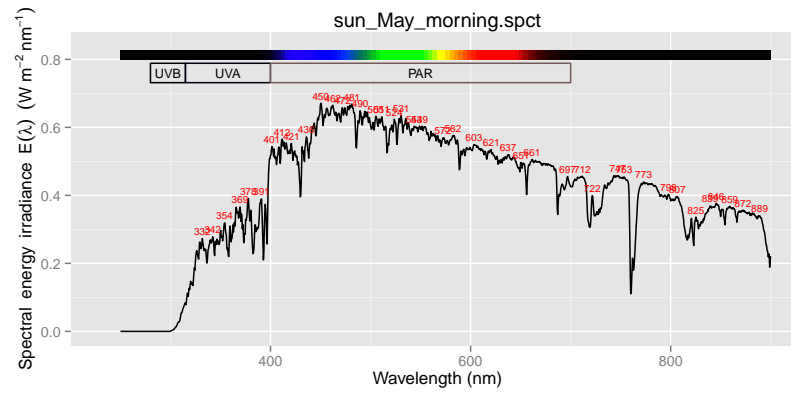
```
plot(ASTM_G173_global.spct, range=c(290, 800), w.band=PAR())
```


ASTM_G173_global.spct

4 Measured daylight spectra

```
plot(sun_May_morning.spct)
```



```
plot(sun_May_morning.spct, unit.out = "photon")
```