Solar radiation during the solar eclipse of March 20, 2015, Jena, Germany

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The diurnal cycle of solar radiation during the eclipse of March 20, 2015 is presented here with a comparison with the diurnal cycle of two previous days. Radiation was measured as shortwave incoming radiation, and as photosynthetically active radiation.

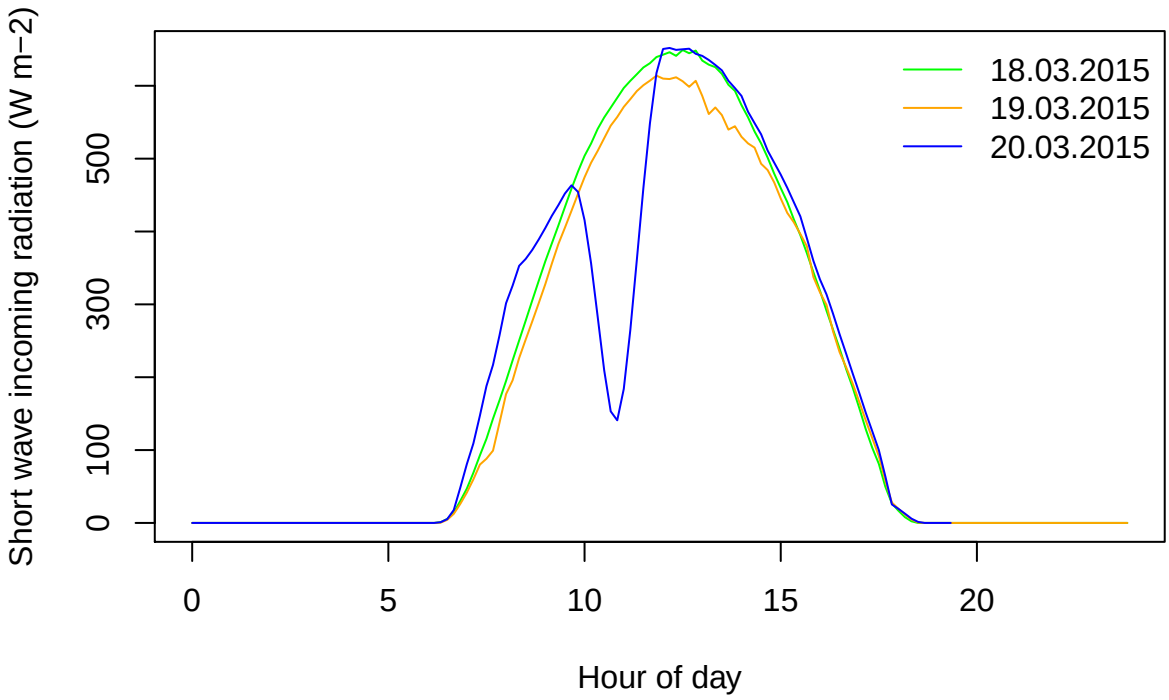
Incoming short wave solar radiation and photosynthetically active solar radiation are continuoslly measured at the roof of the Max Planck Institute for Biogeochemistry in Jena, Germany. A description of the measurement station can be found here http://www.bgc-jena.mpg.de/wetter/Weatherstation.pdf.

Data for this comparison was downloaded from http://www.bgc-jena.mpg.de/wetter/ for the Weather Station Beutenberg.

Code for processing the data

```
all=read.csv("~/Eclipse/mpi_roof.csv")

date=strptime(as.character(all[,1]),format="%d.%m.%Y %H:%M:%S") #Convert dates and times to POSIX
all=cbind(date,all[,-1]) #Replaces dates and times for POSIX dates

Wed=strptime("2015-03-18 00:00:00", "%Y-%m-%d %H:%M:%S")
Thr=strptime("2015-03-19 00:00:00", "%Y-%m-%d %H:%M:%S")
Fri=strptime("2015-03-20 00:00:00", "%Y-%m-%d %H:%M:%S")

Wedset=all[all[,1]>=Wed & all[,1]<Thr,c(1,18,19)] #data only for 18.03.2015
Thrset=all[all[,1]>=Thr & all[,1]<Fri,c(1,18,19)] #data only for 19.03.2015
Friset=all[all[,1]>=Fri,c(1,18,19)] #data only for 20.03.2015

hr=seq(0,(23+5/6),1/6)
hr2=seq(0,(19+2/6),1/6)
```

A comparison of the diurnal cycle of shortwave incoming radiation clearly shows a dramatic decrease for the hours of the eclipse in comparison with the two previous days.



Similarly, photosynthetically active radiation showed a dramatic decrease during the eclipse hours in comparison to the two previous days.