Subject: Re: IDL> How to calculate the position of the Sun?
Posted by sterner on Thu, 20 Apr 1995 07:00:00 GMT
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Fergus Gallagher <F.Gallagher@nerc.ac.uk> writes:

> I would like to calculate the position of the Sun at a given date & time
> in (geocentric) equatorial coordinates. Anyone got a routine for this?
>
> I have a routine to calculate its RA-Dec but no RA-Dec to lat-long
> coordinate conversion. Must be an astronomer out there with a routine to
> do this.....
>

If you mean lat-long on earth (not Celestial Latitude and Longitude)
then it's easy:

lat = dec
lng = 15.0*(ra-st)

Where ra and dec are the sun's Geocentric RA and Dec (which you
already have), and st is the Greenwich Sidereal time.

My IDL library has a routine to compute the sun's position (sun.pro)
and one to compute the local mean sidereal time (lmst.pro).
It also has a routine called sunclock which applies both to give a
world map showing daylight/night/twilights (as I write this the sun
is directly overhead in Trinidad). You can pick up the library as follows:

```
ftp fermi.jhuapl.edu
  login: anonymous
  password: your email address
cd pub/idl
get README
bye
```

The text file README describes what is in the libraries, how to
get them, and how to set them up.

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