
Subject: Re: how to calculate distance from pairs of latitude/longitude measurements?

Posted by [natha](#) on Wed, 11 Mar 2009 21:12:29 GMT

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I wrote this small program:

```
FUNCTION LATLON_DISTANCE, lat1, lon1, lat2, lon2, DEG=deg
```

```
  IF KEYWORD_SET(deg) THEN BEGIN
```

```
    lat1=lat1*(!PI/180.)
```

```
    lon1=lon1*(!PI/180.)
```

```
    lat2=lat2*(!PI/180.)
```

```
    lon2=lon2*(!PI/180.)
```

```
  ENDIF
```

```
  R=6356.7523 ;; polar radius [km]
```

```
  a=R*(!PI/2.-lat2)
```

```
  b=R*(!PI/2.-lat1)
```

```
  gamma=lon1-lon2
```

```
  angle=COS(b/R)*COS(a/R)+SIN(b/R)*SIN(a/R)*COS(gamma)
```

```
  distance=ACOS(angle)*R
```

```
  RETURN, distance
```

```
END
```

The result is the same as MAP_2POINTS.

I'll use MAP_2POINTS anyway,

thanks
