
Subject: Another Map Projection Problem with Map_Proj_Init
Posted by [David Fanning](#) on Mon, 28 Nov 2011 15:50:09 GMT
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Folks,

I have discovered another map projection problem this morning.
It seems Map_Proj_Init is calculating incorrect UV ranges
(they are wrong by 10 degrees) when the center latitude is
not 0.0. Here is a short test program:

```
FOR j=0,10 DO BEGIN
  center_lon = 0 + j*36.0d < 360.0
  mapStruct = Map_Proj_Init(117, CENTER_LONGITUDE=center_lon)
  print, center_lon, mapStruct.uv_box[[0,2]]

  ll = Map_Proj_Inverse(mapStruct.uv_box[[0,2]], $
    mapStruct.uv_box[[1,3]], MAP_STRUCTURE=mapStruct)
  print, center_lon, ll[0,0], ll[0,1]
  print, ""
ENDFOR
END
```

Here are the results. The numbers should be symmetric,
but you can see they are not.

0.000000	-20015077.	20015077.
0.000000	180.00000	-180.00000
36.0000	-19570298.	19347908.
36.0000	-140.00000	-150.00000
72.0000	-19125518.	19792688.
72.0000	-100.00000	-110.00000
108.000	-19792688.	19125518.
108.000	-70.000000	-80.000000
144.000	-19347908.	19570298.
144.000	-30.000000	-40.000000
180.000	-20015077.	18903129.
180.000	0.00000000	-10.000000
216.000	-19570298.	19347908.
216.000	40.000000	30.000000
252.000	-19125518.	19792688.

252.000	80.000000	70.000000
288.000	-19792688.	19125518.
288.000	110.00000	100.00000
324.000	-19347908.	19570298.
324.000	150.00000	140.00000
360.000	-20015077.	20015066.
360.000	180.00000	179.99990

I couldn't figure out why my grid lines were always getting screwed up when I calculated them using the UV range! :-(

Cheers,

David

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David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")
