
Subject: Re: map function for astronomy

Posted by [eshaya](#) on Tue, 16 Dec 2014 21:24:44 GMT

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On Monday, December 15, 2014 6:21:40 PM UTC-5, esh...@umd.edu wrote:

> I want to use the map function for plots of the sky. In the map_set procedure there was a simple reverse=1 keyword to do this. How do we do this with the map function?

Well, I have gone ahead and wrote the code to force a reversal of the longitude and at least make it possible to plot skymaps with the map procedure. Here is what I did (but if anyone can find an easier way, I am all ears). First, I use the negative of the RA values in the limits:

```
limit = [decmin,-ramax,decmax,-ramin]
```

and call the map function with label_format keyword:

```
map1 = map('Orthographic', limit=limit, label_format = 'mapgrid_labels_reverse')
```

The label_format keyword is a callback to a user supplied function that can alter the labels. So mine is call mapgrid_labels_reverse:

```
function MapGrid_Labels_Reverse, orientation, location, fractional, defaultlabel
; Reverse RA labels for skymaps
; Be sure to reverse both the RA limits and the RA values
; And then use map function like so
; m = MAP(orthographic, LABEL_FORMAT='MapGrid_Labels_Reverse', limit=limit)
```

```
; If grid line is RA (orientation = 0), then reverse it
if (orientation eq 0) then begin
    location = -location
    if (location lt 0) then location = location + 360.
endif
```

```
degree = '!M' + STRING(176b) ; Use the Math symbol
```

```
label = STRTRIM(ROUND(location),2) + degree
```

```
    return, label
end
```

```
----
```

This just uses degrees. Of course, one could be fancy here and output hours, min, sec etc instead.

Next one has to use the reverse of the ra in plotting any values:

```
map1 = plot(/overplot,-ra,dec,symbol='+',linestyle='')
```

Again, hopefully, I am just being silly here and there is some keyword or something that does all of this automatically.
