
Subject: spherical harmonic representation
Posted by [maurya](#) on Tue, 21 Jul 2009 12:07:24 GMT
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Hi everybody,

I want to display spherical harmonics on a sphere, as given on web page:

http://en.wikipedia.org/wiki/File:Spherical_harmonics.png (
http://en.wikipedia.org/wiki/Spherical_harmonics)

For this, I have written an IDL routine:

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pro sph_plot  
  
l=5      ;harmonic degree  
m=2      ;azimuthal order |m| <= l  
nc=20    ;No. of contours  
np = 100 ;No. of inclination angle(theta) and azimuthal angle(phi)  
  
theta=-90+indgen(np)*(90-(-90))/float((np-1)) ;theta = -90,90  
phi=-90+indgen(np)*(90-(-90))/float((np-1))   ;phi =-90,90  
  
ff=fltarr(np,np)  
for i=0,np-1 do for j=0,np-1 do ff[i,j]=real_part(spher_harm(theta[i]*!  
dtor,phi[j]*!dtor,l,m,/doub))  
  
window, 0, xsize = 512, ysize = 512, title = 'Spherical Harmonic'  
  
MAP_SET,/HAMMER, /HORIZON, TITLE= 'Hammer-Aitoff Projection'  
  
mx=max(ff)  
lev=-mx+indgen(np)*(mx-(-mx))/float((nc-1)) ;levels: -mx to mx = nc  
levels  
pve=intarr(nc/2)  
nve=intarr(nc/2)+1  
contour,ff,theta,phi,/ove,levels=lev,c_linestyle=[pve,nve]  
  
end  
.....  
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```

But, it is not giving results as expected (as given on the above web page).

Can anyone help me.

Thanks
