Subject: POLAR_SURFACE function
Posted by Jih-Hong Shue on Fri, 25 Jul 1997 07:00:00 GMT

View Forum Message <> Reply to Message

Did anyone ever use the POLAR_SURFACE function to
interpolate a surface from polar coorcinates to
rectangular coordinates? I found a problem when
I used this function for my research.
The interpolated surface has a discontinuity
on positive X axis (zero theta). To illustrate this
problem, I have written the following short program.

```
r=findgen(51)/50.
theta=findgen(25)*15.*!dtor
x=r#cos(theta)
y=r#sin(theta)
z=exp(-r^2)#replicate(1.,25)
zz=polar_surface(z,r,theta,/grid)
surface,z,x,y
window,2
surface,zz
end
```

After running this program, you can see a spike extending
from the top to the bottom on the interpolated surface.

I am now doing an interpolation from grids in polar
coordinates to another set of grids in polar coordinates.
I was searching for IDL online help, but I found no
procedures or functions which can interpolate the data
in polar coordinates. Thus, I figured out a way--use
POLAR_SURFACE to interpolate grids to retangular
coordinates; and use BILINEAR to interpolate from
old grids to new grids; and hence transform the new
grids in polar coordinates. It seems that the
POLAR_SURFACE function doesn't work for me. Can anyone
offer an alterative way to do this interpolation?

Thank you,
Jih-Hong Shue
jhshue@stelab.nagoya-u.ac.jp