## Subject: Re: Spherical surface plot Posted by Mrunmayee on Sun, 03 May 2009 12:50:09 GMT

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On May 2, 6:52 pm, David Fanning <n...@dfanning.com> wrote:
> Mrunmayee writes:
>> I have been trying to create a spherical surface plot and have
>> partially succeeded. Here is what I did to create a surface:
>> theta3 = findgen(361)/2. * !pi/180.
                                         ; 0<= theta <= !pi
>> phi3 = findgen(361) * !pi/180.
                                        ; 0<= phi <= 2*!pi
>> x3 = sin(theta3) # cos(phi3)
>> y3 = sin(theta3) # sin(phi3)
\Rightarrow sph = sqrt( (1. - x3^2 - y3^2) > 0.)
                                         : This is to avoid
>> "floating illegal operand" error.
>> sph1 = sph
                                       ; Just for comparison
>> with sph, to be modified as follows
>> sph2 = sph[181:360,*]
                                        : Array containing
>> elements for !pi/2 < theta <= !pi i.e. southern hemisphere
>> sph1[181:360,*] = -sph2
                                        ; Since sqrt will just take
>> +ve root, this inverts and creates southern hemisphere.
>
>> Success: fsc surface, sph1, x3, y3 ; Glorious spherical surface
            surface, sph1, x3, y3
                                       ; Rather pathetic
>>
>> rendering of surface but still a spherical surface
>> Failure: shade_surf, sph1, x3, y3
                                        ; Nothing viewd. NOTHING AT
>> ALL. Whether device, decomposed=0/1 doesn't matter.
>
>> Anyone knows what's happening?
>
> I don't know what is happening, but the result doesn't
> surprise me much. SURFACE and SHADE SURF use what is
> technically referred to as a "two and a half D" surface
> rendering engine. All direct graphics commands use this
> 2.5D way of rendering 3D objects. Object graphics, which
> is what FSC_SURFACE is using, uses a true 3D rendering
> engine. I would have expected it to be better at rendering
 this surface.
>
> I think the bottom line is that if you *really* want to
 do 3D things, you will have to do them in object graphics
> if you want "modern" (as opposed to state of the art in the
  1970s) 3D results.
>
> Cheers,
>
 David
>
>
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- > David Fanning, Ph.D.
- > Fanning Software Consulting, Inc.
- > Coyote's Guide to IDL Programming:http://www.dfanning.com/
- > Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Oh man... I have never ventured into objects in IDL. Not much idea about 2.5D and 3D rendering. So, when you use OBJ\_NEW("IDLGrSurface"), it uses 3D rendering?

But as to what is happening here. See if doing following shines any new light.