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Subject: Re: Polar to spherical coordinates

Posted by [Patrick V. Ford](#) on Thu, 27 Apr 2000 07:00:00 GMT

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Oh, if what I wanted was that easy. What I would like is more akin to the MAP\_IMAGE function. I want to convert a 2D array "image" into a 3D array "image" such as a polar projection to a sphere ( 3D array) and back again. Using the WHERE function and the CV-COORD function I have partially done what I need to do. It looks like I will need to create a look-up-table (LUT) to translate the coordinates.

It still seems like there must be a trivial solution other than to create a LUT and its inverse. I vaguely recall from some math-sci course I took in college 20 or so years ago that we used transform to "transform" from one domain to another. This is what I am looking for, a function that will do this transform. If I make one, I will post it so that it will be decreased in size by 80% and speed by 300% as usual since I still think in FORTRAN or C and not IDL.

Thanks

In article <MPG.136e22dd5bfafe0c989aeb@news.frii.com>, David Fanning <davidf@dfanning.com> wrote:

> Patrick V. Ford (pford@bcm.tmc.edu) writes:

>

>> I have a problem that is screaming at me that there must be a simpler  
>> solution in IDL than I have devised. I am attempting to relearn IDL,  
>> after months of being away from it, and the math after decades from it and  
>> I have not found a built-in procedure that does the trick.

>>

>> The problem in its, simplest form, is that I want to take a 2-D polar  
>> plot and transform it into a 3-D hemisphere and vice versa. More  
>> accurately, a polar plot to a 3-D hemi-ellipsoid with varying axes and  
>> thickness, i.e. more than just a surface plot. The manner that I am  
>> thinking how to do this is to sample the polar plot along its radius and  
>> map it to the hemisphere(with for loops). It seems to me that this is  
>> likely common in IDL to map from polar to spherical coordinates and to  
>> warp shapes. Since I don't wish to reinvent the wheel, and not a good  
>> wheel at that, I would appreciate being pointed in the right direction.

>

> I'd start by trying to use CV\_COORD to map from polar to  
> spherical coordinates.

>

> Cheers,

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> David

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