Subject: Re: Rotate volumes
Posted by marc schellens[1] on Tue, 18 Sep 2001 08:04:47 GMT
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"B.C. Hamans" wrote:
> Hi,
> I'm still working on my volumes (see previous posting) and trying to rotate
> and translate them to match each other. It would be very nice if I could use
> something like XVOLUME_ROTATE, /T3D or /MATRIX=!P.T. (Of course this isn't
> possible). I also thought about using CONVERT_COORD but this is no solution
> either (i think). The 2 volumes are described by a matrix of dimension
> 256x256x256 containing gray values between 0 and 255. I obtain a translation
> matrix to fit the 2 images from an external program. In the future i hope to
> do this by using MIM or MIM2 (http://www.nuclear.uhrad.com/mim2.htm). The
> translation matrix is of the form !P.T (4x4).
> I already made some nice projections of the volumes using PROJECT_VOL in 3
> directions and would like to add some sliders to define rotation,
> translation and skew factors. To align the volumes before further processing
> them.
> Anybody?
> Bob

If Martin's function does what you want:

I had a similar problem some time ago,
this solutions seemed to be faster (even with loops), less
resource-hungry
and you get an intepolated result.

hope it helps,
:-) marc

MRI2 it the bytarr(256,256,256)
phi fltarr(3) the three angles to rotate (+/- is convention)
trans intarr(3) the translation (in voxels)

```
print,'X...'
if phi[0] ne 0.0 then begin
   for x=0,255 do begin

 MRI2[x,*,*]=rot(/INTERP,reform(MRI2[x,*,*],256,256),-phi[0], MISSING=0)
```

```
    endfor
endif
print,'Y...'
if phi[1] ne 0.0 then begin
    for y=0,255 do begin

 MRI2[*,y,*]=rot(/INTERP,reform(MRI2[*,y,*],256,256),phi[1],M ISSING=0)
    endfor
endif
print,'Z...'
if phi[2] ne 0.0 then begin
    for z=0,255 do begin
        MRI2[*,*,Z]=rot(/INTERP,MRI2[*,*,Z],-phi[2],MISSING=0)
    endfor
endif

print,'shift...'
MRI2=shift(MRI2,trans[0],trans[1],trans[2])
```