
Subject: Re: CT LUNG VISUALISATION

Posted by [David Foster](#) on Thu, 30 Apr 1998 07:00:00 GMT

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Martin Schultz wrote:

```
>
> Fraser Hatfield wrote:
>>
>> I was wondering if someone advise me on the following.
>> I am trying to create a 3-D visualisation of the lungs from CT data
>> within IDL. To do this I use the Shade_volume and polyshade commands.
>> The problem I have is that the voxels are anisotropic, and so
>> the visualisation looks squashed on storing the slices in an array
>> of size (512,512,26)
>> The dimensions are as follows.
>> x=512,y=512,z=26, xres = 0.5mm, yres=0.5mm, zres=10mm.
>> (NB the ct slices are contiguous)
>> Could someone suggest the best way to manipulate the data so
>> that the visualisation has the correct proportions in all directions
>>
>
> Although I have never seen my loungs in IDL, you may want to try congrid
> in order to interpolate your data in the z dimension:
>
> newdata = congrid(data,512,512,520,/interpolate)
>
```

Since CT data is usually 16-bit integer data, this would create a 270MB array! I think a better approach would be to use IDL's system variables !X.S, !Y.S, !Z.S, and !P.T together with the /T3D keyword in the POLYSHADE() call, together with the Z buffer.

Here is a code snippet from one of our programs. Email me if you have questions.

```
!P.T = d.isosurf_pt
!X.S = d.isosurf_x_s
!Y.S = d.isosurf_y_s
!Z.S = d.isosurf_z_s

set_plot,'Z'
erase
b = polyshade(verts, polys, /t3d) ; This brain is upside down
```

Dave

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