Subject: Slicer
Posted by miller on Thu, 18 May 1995 07:00:00 GMT
View Forum Message <> Reply to Message

Can someone tell me what the difference between 'high side' and 'low side' is in the slicer routine. I have not been able to determine a clear-cut explanation for what either of these options will do when rendering a 3-D MRI data set.

Thanks in advance,

Dave Miller

@@@
@@@@@@@@@@@@@@@@@@ @@@@@@@@@@@@@@@@@@@@

Work
Address: Dave Miller
Research Assistant I/Programmer
Department of Magnetic Resonance Imaging
University Hospitals of Cleveland
2074 Abington Rd.
Cleveland, Ohio 44106

Career interests include Biomaterials, Prosthetics, Orthotics, and Functional MR Imaging.

Phone: (216) 844-8034
Fax: (216) 844-8062
MRI: (216) 844-7750

E-mail: miller@amber.uh.cwru.edu

@@@
@@@@@@@@@@@@@@@@@@ @@@@@@@@@@@@@@@@@@@@

Subject: Re: Slicer
Posted by agraps on Mon, 17 Feb 1997 08:00:00 GMT
View Forum Message <> Reply to Message

I just realized that my previous post may have been misleading.

Reading in data from 2D arrays into 3D arrays in IDL is simple, but 'filling in' that 3D array to make a rendered volume is what is harder.

If your 2D data is nx by ny and you have 60 of those, follow the instructions for reading in READ_GIF or TIFF_READ in the manual. If

one of your images is im = bytarr(nx,ny), then place it where you want
in the 'z' column (any ordering will do, just be consistent).

data3d = bytarr(nx, ny, 60)
data3d(0,0,0) = im ;put image into z=0 column

next image would go in:
data3d(0,0,1) = im

and so on, for each of the 60 images.

And so slicer should work on the array data3d. You can get more
details from the IDL Reference and Basics books under "Slicer" and
"Volume Visualization", respectively.

Amara

--

****
Amara Graps email: agraps@netcom.com
Computational Physics vita: finger agraps@best.com
Multiplex Answers URL: http://www.amara.com/
****

Subject: Re: Slicer
Posted by agraps on Mon, 17 Feb 1997 08:00:00 GMT
View Forum Message <> Reply to Message

Christian Ammon <hnok159@mail.uni-wuerzburg.de> writes:

> What I want to do is loading about 60 2d-images (tiff-formated or gif)
> into IDL and combining them to a threedimensional array. After this I
> want to get some slices out of it. I already used the slicer.
> Now I got some questions:

> 1.) How can I transfer the images to IDL and combine them to a 3d-array?
> 2.) Is it possible to take slices depart 90 degree, e.g. 45 degree?

> Any help would be apreceated

Christian,

If you figure it out, please post something here about it!

Creating (rendering) a true 3D volume in IDL from a series of 2D

images in non-trivial. (Especially if the data for each of the images is sparse.)

Like you I didn't have any problem with using Slicer on the series of 2D images, but I gave up trying to render a volume from it.

You can see my slicer work at the following URL, but it's not a volume. If anyone else knows how.. feel free to give advice...

http://quake.stanford.edu/~amara/mdi/powspec3d.html

(Pretty soon, I need to learn how to "fly through" 3D data, in addition to making slices at any angle from 3D volumes.)

IDL may not be the best tool for working with 3D data, IBM's Data Explorer or AVS might be better.

viel Glueck!

Amara

--

********** **********
Amara Graps email: agraps@netcom.com
Computational Physics vita: finger agraps@best.com
Multiplex Answers URL: http://www.amara.com/
********** **********

Subject: Re: Slicer
Posted by David Foster on Mon, 24 Feb 1997 08:00:00 GMT
View Forum Message <> Reply to Message

Christian Ammon wrote:
>
> What I want to do is loading about 60 2d-images (tiff-formated or gif) into IDL and
> combining them to a threedimensional array. After this I want to get some slices out of
> it. I already used the slicer.
> Now I got some questions:
>
> 1.) How can I transfer the images to IDL and combine them to a 3d-array?
> 2.) Is it possible to take slices depart 90 degree, e.g. 45 degree?
>

In regards to #2:

You can use the IDL routine EXTRACT_SLICE.PRO to extract a slice at any orientation within the 3D volume. However, this routine assumes that the voxels are isotropic (the same size in all three dimensions), so if the interval of your slices in the Z dimension is unique you get very distorted images.

I've written a RESLICE.PRO routine that extracts slices from a volume, taking into account the spacing between images. Let me know if you'd like a copy (offer open to anyone).

Dave
--

~~~~~~ ~~~~~~~
David S. Foster Univ. of California, San Diego
Programmer/Analyst Brain Image Analysis Laboratory
foster@bial1.ucsd.edu Department of Psychiatry
(619) 622-5892 8950 Via La Jolla Drive, Suite 2200
La Jolla, CA 92037
[UCSD Mail Code 0949]
~~~~~~ ~~~~~~~