
Subject: Re: IDL for 3D image processing?
Posted by [Ken Kump](#) on Wed, 13 Mar 1996 08:00:00 GMT
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Peter Verveer wrote:

- > Is IDL suited for 3D image processing? Are there 3D equivalents to
- > operations such as the 2D fourier transform and convolution?
- >
- > I would apply IDL for processing 3D microscopy data . Has IDL been
- > applied in this field, or in 3D medical image processing or
- > tomography, which are similar fields?

I am an IDL user applied to medical image processing, not microscopy.
To be frank, I find IDL4.0 difficult to do 3D work.

Let me clarify. Many of the routines are there, but they are somewhat cumbersome. For example, I take a 3-D MRI volume data set and would like to do a skin-surface rendering. It is possible using either slicer.pro (a widget-based package) or using more direct means with shade_volume. It is difficult to manipulate the object and put arbitrary cuts into it. The tools are there, you need to spend the time to write an optimized, slicer-like routine..but other packages are avail which already have this built-in.

Most functions are extendable to 3D. The image processing functions are limited, but I hear that ver 5 will fill in this void.

I think IDL is nice in that there is a fair amount of flexibility and some power. I find it more optimized for 2-D stuff. There are some nice visualization tools, animators, and widgets. There is not, as far as I know, a Radon Transform, for example (although I have implemented several algorithms) to do tomography.

I find IDL a "nice" environment to do processing and display. It is straightforward to include your own, optimized C/FORTRAN code which I use often. Your decision really should depend upon your needs (eg: Matlab (1D, 2D signal processing/optimization), AVS (good 3D but more for developing applications than research), ...).
Good luck,

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