Subject: Re: project_vol() in IDL
Posted by gpetty on Thu, 26 Feb 1998 08:00:00 GMT
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In article <MPG.f5eaf06c86c1a8a989728@news.frii.com>,
David Fanning <davidf@dfanning.com> wrote:
> Grant W. Petty (gpetty@rain.atms.purdue.edu) writes:
>
>> Today's my first day using IDL and I must say...
>
> Sigh...
>
> My next book is going to be entitled How To Do Really, Really
> Hard Things on Your First Day Using IDL. I'm going to use
> examples I have collected from this newsgroup. :-)

The fact that I was able to do even Moderately Hard Things, like 3-D spatial filtering in frequency space, autocorrelation, volume projection, shaded surface plots, etc. on my first day with IDL is tribute both to the power and elegance of IDL (relative to what I'm used to) and to the clarity of David's book. In the past, I would have spent a couple solid weeks programming in FORTRAN and NCAR Graphics to accomplish *half* of what I did yesterday alone...

>
>> However, I have already run into what seems to be an annoying
>> limitation in project_vol() and am wondering whether I'm just
>> overlooking something.
>

<snip>

> Here is my advice. Sounds like you want to do some fairly
> complex 3D kinds of things.

Actually, as far as Project_Vol() goes, I hadn't thought of my problem as being all that complex -- all I need is a 2-D projection of my 3-D data volume, but with the image representing sums rather than averages of the data values along the ray. This is closer to the way we actually see translucent structures.

But I'm now beginning to realize that this might not be as trivial a difference (computationally speaking) as I had first thought. I'll have to look at the source code (now that I know that it's accessible) and see what I can do with it, if anything.

Just out of curiosity, is there a repository for user-contributed

add-ons to IDL?

<snip>

> object problem. I can get *almost* there, but not quite,
> and I end up doing "experiential programming" in which I
> make random changes in my programs, hoping beyond hope
> that something will start to make sense. I hate it.)

Sounds like my experience with some other complex and poorly documented packages I have worked with over the past 12 years -- I hate it too. It's partly for that reason that I didn't have the nerve to delve into the official docmentation at all and waited instead for David's book to come out before tackling IDL.

> The alternative is to look at the Project_Vol source code, which
> is written in IDL and is available in the lib subdirectory, and
> make the modifications to it yourself. This is probably not a
> first-day-with-IDL kind of a job, but I didn't think the source
> code looked impossibly hard, either.

Well, on my first-day-with-IDL, along with everything else, I successfully generalized the dist() function from 2 to 3 dimensions :-) . This is an important capability if you want to do 3-D Fourier filtering; I'm glad RSI supplies source code for this reason.
But Project_Vol() is obviously going to be more complex.

>
>> P.S. As long as I'm posting to this NG, I might as well mention one
>> other suggested improvement to IDL that immediately comes to mind:
>> command line history/editing/completion capabilities, a la the UNIX
>> tcsh shell. It's a pain to have to retype an entire lengthy command
>> from scratch when all I want to do is change one parameter!
>
> Now here is a question I *DO* know how to answer. :-)
>
> There should be no reason to re-type a lengthy command from
> scratch. IDL has a command "history" buffer that is accessible
> using the UP arrow key. Simply recalling the command and
> editing it before hitting the Carriage Return will do the

Aha! This valuable information alone justified the effort of posting my message! Maybe if I *had* spent a few minutes with the official documentation, I would have found this.

Now if only RSI would add an option for EMACS-style command line editing (a la tcsh), so that one wouldn't need to constantly shift one's hands back and forth between the letters and the arrow

keys. (Yes, I can always find *something* to complain about!)

thanks,

Grant

P.S. Did I mention that I highly recommend David Fanning's book?

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