There has been a lot of amusing but perhaps not technically
informative discussions on IDL vs PV-Wave. I use IDL, so I am not
familiar with where PV-Wave has progressed to since the parting of
ways of Research Systems and Precision Visuals. It strikes
me that it could be useful for the readers of this news group to compare
the two packages features. I would appreciate it if some PV-Wave users
discuss features added to PV-Wave since the split-off.

As was mentioned, there is now a release of IDL (i.e., IMSL/IDL) that
gives full access to the IMSL library. This is, of course, a joint
release between Research Systems and the IMSL folks.

Other additions to IDL include the 3-D display capabilities: the
Z-buffer driver, the ability to do surface rendering (shade_surf),
volume rendering (shade_volume and polyshade), and light source
modeling for surface display, the ability to display 2- and 3-D
triangulated data (or other data on irregular gridding) or regrid to a
rectangular grid, and finally, the ability to project an image into an
arbitrary 3-D plane (polyfill), which can be used for displaying
slices through 3-D data. Now if Research System will just add
translucent display of 3-D data, I'd be ecstatic!

Did the 3-D capabilities get added to PV-Wave? How about the Widget
capabilities?

The current version of IDL can be down-loaded via internet (or SPAN,
for the VMS folks). RSI will authorize use of this for a trial
period. This could help PV-Wave users investigate the differences.
Does Precision Visuals, Inc have anything similar? The FTP servers
that have IDL are: gateway.rsinc.com (192.5.156.17) (via a 56KB link)
and boulder.colorado.edu (128.138.240.1) For both, log in as ftp with
password <userid>@<localhost>. IDL is in the directory pub/idl, in
compressed format (.Z).

What other features were added to IDL? Will someone comment on additions
to PV-Wave since the September 1990 end of their connection with RSI

David Ritscher
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K1-4C9, P.O. Box 8
Schenectady, NY 12301
ritscher@crd.ge.com

Subject: Re: idl and pv-wave
Posted by Achim Hein on Thu, 23 Jan 1997 08:00:00 GMT

Matt Delaney wrote:

>
> What are the essemtial differences between RSI IDL and PV-WAVE? Are
> programs written in the respective languages compatible?
> --
>

They are compatible if you change some commands and the usage of somme
commands - i.e. avg(average/WAVE) and total, the usage of shade_surf,
call_external...
But there is no problem to find and convert the different commands.

In my opinion IDL allows more powerful tools especially graphic
input/output-tools additionally there are some little mistakes in the
WAVE/FFT algorithm.

Achim

_____

Dipl.-Ing. A. Hein
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57068 Siegen
Phone: 0271/740-3362
Fax: 0271/740-2336

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Please have a look at our Web-Sites:

http://www.nv.et-inf.uni-siegen.de/pb2/www_pb2

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Subject: Re: idl and pv-wave
Posted by decre on Thu, 23 Jan 1997 08:00:00 GMT

Achim Hein wrote:

>
> Matt Delaney wrote:
>>
> In my opinion IDL allows more powerful tools especially graphic
> input/output-tools additionally there are some little mistakes in the
> WAVE/FFT algorithm.

```
>
>  Achim
>
>  _____
>
```

Wooops !
I'm new to pv-wave and intend to use it for fft, a.o.
Can you comment on those _little_ mistakes in the WAVE/FFT ?

Many thanks,
Michel Decre

 Philips Research Laboratories -- Building WB-31
 Prof. Holstlaan 4
 5656 AA Eindhoven
 The Netherlands

 Phone: +31-40-2744565
 Fax: +31-40-2744288
 E-mail: decre@natlab.research.philips.com

Subject: Re: idl and pv-wave
Posted by brian.jackel on Fri, 24 Jan 1997 08:00:00 GMT
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In article <32E783C8.2FC1@natlab.research.philips.com> decre
<decre@natlab.research.philips.com> writes:

> Wooops !
> I'm new to pv-wave and intend to use it for fft, a.o.
> Can you comment on those _little_ mistakes in the WAVE/FFT ?

> Many thanks,
> Michel Decre

I don't remember all the details, but there was a problem with doing
FFT's for a prime number of points (and I think it was only for large
prime numbers). Whatever it was, it's fixed in the current versions
of IDL, dunno if PV-Wave did anything about it. Another poster has
included some code which should tickle the bug, if it still exists.

                    Brian Jackel
                    University of Western Ontario

Subject: Re: idl and pv-wave
Posted by Achim Hein on Fri, 24 Jan 1997 08:00:00 GMT
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decre wrote:
>
> Achim Hein wrote:
>>
>> Matt Delaney wrote:
>>>
>> In my opinion IDL allows more powerful tools especially graphic
>> input/output-tools additionally there are some little mistakes in the
>> WAVE/FFT algorithm.
>>
>> Achim
>>
>> _____
>>
>
> Wooops !
> I'm new to pv-wave and intend to use it for fft, a.o.
> Can you comment on those _little_ mistakes in the WAVE/FFT ?
>
> Many thanks,
> Michel Decre
>
Try the following:
wave>test=findgen(4097)
wave>print,max(test-fft(test,-1),1))
wave>(31.3898,0.350983)

In IDL you will get as result:
IDL>test=findgen(4097)
IDL>print,max(test-fft(test,-1),1))
IDL>(0.000244141,1.39110e-05)

If you try to evaluate this FFT with a 4096-length, the results in both
programs are quite equal.

There was a discussion some month ago with Sergei Senin...:
In his opinion:
> <There seems to be no mistake, but simply no check in the procedure   <for the number of
elements in the array being 2^X.
But I think:
> It seems so, but I think a Fourier-Transform-Algorithm has to
> run for every array length

> <No, it shouldn't (at least in what is called classical FFT) - but a
 <*programme*, based on the algorithm should.

> <Sergei Senin
> <ss@ee.port.ac.uk, http://www.ee.port.ac.uk:80/~ss-www/

Is there any 'mistake'-archive for IDL/WAVE?

_____

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http://www.nv.et-inf.uni-siegen.de/pb2/www_pb2

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Subject: Re: idl and pv-wave
Posted by Big Brother on Sat, 25 Jan 1997 08:00:00 GMT
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Achim Hein wrote:
> Try the following:
> wave>test=findgen(4097)
> wave>print,max(test-fft(test,-1),1))

Shurely it should be max(test-fft(fft(test,-1),1))   :-)

> wave>(31.3898,0.350983)

fairly close, my HP gives
(29.4698,0.247685)

> In IDL you will get as result:
> IDL>test=findgen(4097)
> IDL>print,max(test-fft(test,-1),1))
> IDL>(0.000244141,1.39110e-05)
> If you try to evaluate this FFT with a 4096-length, the results in > > > both programs are quite equal.

test=findgen(4095)
print, max(test-fft(fft(test,-1), 1))
(0.00219727, -0.000417931)

> There was a discussion some month ago with Sergei Senin...:

> In his opinion:

IMHO :-)

>> <There seems to be no mistake, but simply no check in the procedure > > <for the number of elements in the array being 2^X.

> But I think:
>> It seems so, but I think a Fourier-Transform-Algorithm has to
>> run for every array length

I do agree with you now - WAVE fft is weird.
I'm using it to plot amplitude and phase spectral densities, which
requires a certain precision, and to avoid this problem, I run a
"power-of-two check" routine and zero padding before doing fft.

Sergei Senin
UoP, UK
ss@ee.port.ac.uk
WAVE mailing list archive:
 http://www.ee.port.ac.uk:80/~ss-www/WAVE/wave-maillist/maill ist.html

PS: Sorry about this "Big Brother" stuff - I'm tired of getting junk
e-mail. My real address is in the signature.

Subject: Re: idl and pv-wave
Posted by Achim Hein on Mon, 27 Jan 1997 08:00:00 GMT
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<Big Brother wrote:
<>
<> Achim Hein wrote:
<> > Try the following:
<> > wave>test=findgen(4097)
<> > wave>print,max(test-fft(test,-1),1))
<>
<> Shurely it should be max(test-fft(fft(test,-1),1))   :-)
<>
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<> > But I think:
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<> I do agree with you now - WAVE fft is weird.
<> I'm using it to plot amplitude and phase spectral densities, which
<> requires a certain precision, and to avoid this problem, I run a
<> "power-of-two check" routine and zero padding before doing fft.
<>
<> Sergei Senin

Thank you, I am very pleased.

Achim

PS.: I cannot get you by E-mail
--
_____

Dipl.-Ing. A. Hein
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