Subject: shaded surface
Posted by Achim Hein on Fri, 14 Mar 1997 08:00:00 GMT
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Here is my problem:
I have got two files, one contains the surface backscattering data, the other file contains the corresponding height information. Both files are floating point arrays of dimension 6000 x 28000 pixel.
If I want to print these files fully resoluted - means every pixel will be printed - I can do it by printing in *.pcl or *.ps format.
Any image compression ruins the information in the picture - so it is forbidden to compress anyway.
But what is the way to get similar resolutions in shaded surface interpretation?

Cheers

Achim

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Please have a look at our Web-Sites:

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

Subject: Re: shaded surface
Posted by Liam Gumley on Tue, 18 Mar 1997 08:00:00 GMT
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You might find something useful at

http://www.cs.cmu.edu/~garland/multires/index.html

Cheers,
Liam.

Subject: Re: shaded surface
Posted by Achim Hein on Tue, 18 Mar 1997 08:00:00 GMT
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David Fanning wrote:
>
> Achim Hein says he feels insecure about my flippant remark
> about his 6000 x 28000 *exact* representation of a shaded
> surface.
>
> Sorry, Achim, you are absolutely right. If you get this
> thing printed the way you want it it will be a "phantastical
> presentation effect" and I will be drolling over it just like
> everyone else. If you let me in on the secret I might
> write it up as a programming tip. Just be sure to tell us
> how to do it with less than 2 GBytes of RAM, because I
> don't think I'm going to have *that* kind of horsepower
> anytime soon. :-)
>
Ok, Ok, it sounds a little bit like 'enterprise' and 'warp8' but for
'online'-SAR-processing algorithms I would say 2 GByte of RAM is a usual
configuration and if you are not going to have these kind of horsepower
the only thing you need is a virtual page count of 4GByte and a lot of
time...

Regards

Achim
--
_____

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Subject: Re: shaded surface
Posted by davidf on Tue, 18 Mar 1997 08:00:00 GMT

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don't think I'm going to have *that* kind of horsepower
anytime soon. :-)

Cheers!

David

Just say, all the world's great ideas seemed phantastical
when they were first dreamed up!

David Fanning, Ph.D.
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Coyote's Guide to IDL Programming: http://www.dfanning.com

Subject: Re: shaded surface
Posted by Achim Hein on Tue, 18 Mar 1997 08:00:00 GMT

Struan Gray wrote:
>
> Achim Hein, hein@nv.et-inf.uni-siegen.de writes:
>
>> First: this problem is a trivial one, so it seems to be that I am an
>> absolute beginner.
>
>   no.
>
>> Second: this problem can not be soluted and everyone (with the exception
>> of me) knows this as fact.
>

> almost.
>
> 6000 x 28000 x floating point is a *big* array. I'd be interested to know
> how you are printing this: assuming 150dpi true colour, you are printing 1m x
> 5m fine-art posters as your 'normal' output. Admittedly this is not unheard
> of in the graphics business, but it's a specialised job and it'd be fun to
> hear how you go about it.

At the moment it is a little bit utopian to print images that largeness because before printing this picture you have to process it and processing means a kind of filtering in two dimensional frequency domain - I think you know the fouriertransformation problem of such a large array (but we get one of the new Digital alpha machines with 2 GByte, so we can process these pictures completely)
We are processing and printing the images the way you suggest - in pieces of 2Kx4K.
You are right if you say the plots are growing up to x meter posters but that's the way to plot exact maps and before asking an cartograph to plot my files I want to know how to generate them.
There is another reason to get these large shaded images. It will be a phantastical presentation effect if you are able to show a 3 dimensional 1m x 1m plot of an interesting area. In our case we could show an 3 dimensional map made by remote sensing data simply received by flying over the surface and not generated by pixelwise surveying.

Thanks

Achim
--

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Subject: Re: shaded surface
Posted by Struan Gray on Tue, 18 Mar 1997 08:00:00 GMT

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almost.

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Anyway, if you want to plot this using SHADE_SURF you will have to plot it in pieces and then stitch the pieces back together, either automatically with IDL or with a graphics program. Take a look at what is called a "painter's algorithm" in graphics textbooks to get an idea of what order to plot the pieces: essentially you plot the stuff at the back first and then if the stuff in front overwrites it you don't have to worry.

Struan

Subject: Re: shaded surface
Posted by Achim Hein on Tue, 18 Mar 1997 08:00:00 GMT

David Fanning wrote:
>
> Achim Hein <hein@nv.et-inf.uni-siegen.de> writes:
>
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>> Any image compression ruins the information in the picture - so it is
>> forbidden to compress anyway.
>> But what is the way to get similar resolutions in shaded surface

>> interpretation?
>
> Surely your joking, Mr. Hein! :-)
>
You make me feel insecure!
There are now two opportunities of interpreting.
First: this problem is a trivial one, so it seems to be that I am an absolute beginner.
Second: this problem can not be soluted and everyone (with the exception of me) knows this as fact.

How shall I put it?
Is there a way to print an 3-d-image in shaded representation and nearly full resolution or how can I print a 6000x28000 window or should I forget about it?
I try to plot a topography map including height data and surface condition and in shadesurfing it in a 1000x1000 window, you can't see nothing.

Cheers

Achim

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