
Subject: Re: Z-Buffer question

Posted by [Robert Moss](#) on Wed, 19 Feb 1997 08:00:00 GMT

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David Fanning wrote:

>
> Astrid Kuhr writes:
>
>
>> This is an example, what I do. But the result is :((, because I get the
> surface-
>> lines not all very clean, at some places, they are gone away.
>> What I want to get is a picture, same as without using the z-buffer.
> There I can
>> see all the lines from the surface very clear, without broken parts.
>
>> IDL> shade_surf, dist(20)
>> IDL> surface, dist(20), /noerase
>> IDL> a=tvrd()
>> IDL> set_plot, 'x'
>> IDL> tv, a
>> IDL>
>
> Well, let me say upfront that I don't believe there *is* a
> real solution to this.

Sorry David, but at least for this simple example there is a real solution. You'll probably kick yourself when I tell you what it is...

> I think the problem really has to do with
> "round-off" error in how the Z-buffer calculates what is in
> front of something else, when the two objects have the
> same value.
>

I suspect that this is true.

>
> So what I have done in the past in similar situations is
> incorporate a "fudge factor" into my code. (Physicists
> will understand this.)

I think this is an insult, but I'll let it slide :P

So, what is this "real solution" that I mentioned?

It's very simple... turn `_off_` the Z buffering.

For this simple example, you'd do this:

```
thisDevice = !D.Name
colors = !D.N_Colors
SET_PLOT, 'Z'
DEVICE, Set_Resolution=[300,300], Set_Colors=colors, z_buffer=0
SHADE_SURF, DIST(20)
SURFACE, DIST(20), /NoErase
picture = TVRD()
SET_PLOT, thisDevice
WINDOW, XSize=300, YSize=300
TV, picture
```

Voila! The exact same output that you would have seen had you used the X device. The moral of the story is simple... if you don't specifically need 3D hidden line removal, don't use it.

--

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