Subject: Interesting Filled Contour Problem
Posted by David Fanning on Mon, 16 Apr 2012 19:12:42 GMT
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Folks,

I ran into an interesting filled contour problem today. The data set was large (4051,2032). Rendering it as a filled contour plot with the CELL_FILL keyword was taking on the order of 80-100 seconds to render. (Slow even by function graphics standards, and this is direct graphics!)

Since there was no particular reason to use the CELL_FILL keyword, whose algorithm is always slower than the normal FILL keyword, I tried using FILL. The plot rendered in about 5 seconds, but didn't look anything LIKE the previous plot! Weird.

In a round-about way, I discovered that if I made sure that the minimum value of the data was really zero (the Min function reported the value as zero!), then the filled contour plot would render exactly like the previous plot.

```
Print, Min(data)
  0.000000
data = data > 0.0
```

Even weirder, but now at least it was rending in about 5 seconds or 20 times faster than before. I've seen this before, but never managed to figure out a solution. Has anyone else seen this?

Any, to make this as fast as possible, I decided to render the plot, not as a filled contour plot, but as a partitioned image. That plot rendered in 0.2 seconds and looked exactly like the previous two plots. So, that's not too bad: 100s -> 0.2 s.

I've written about this here, and made the data available if you want to play with it.

http://www.idlcoyote.com/graphics_tips/fastfill.php

Anyone who can explain that Min(data) thing will get an automatic invite to the IDL Expert Programming Association annual meeting this Fall.

Cheers,

David

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Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")