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Subject: Re: Contour: difference between IDL 8.0 and IDL 8.4

Posted by [burkina](#) on Fri, 17 Feb 2017 16:45:56 GMT

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On Friday, 17 February 2017 16:30:47 UTC+1, Jim P wrote:

> On Friday, February 17, 2017 at 2:55:48 AM UTC-7, burkina wrote:

>> On Thursday, 16 February 2017 12:59:39 UTC+1, burkina wrote:

>>> Ciao,

>>>

>>> I've upgraded from IDL 8.0 to IDL 8.4, and found a strange difference in the behaviour of CONTOUR.

>>>

>>> Here's a simple test:

>>>

>>> data = RANDOMU(seed, 9, 9)

>>> smooth = CONTOUR(MIN\_CURVE\_SURF(data), TITLE='Smoothed', RGB\_TABLE=1, /FILL,  
c\_value=[0, 0.2, 0.3, 0.5])

>>>

>>> If you launch it in IDL 8.0, you get what you (more or less) expect: three filled contours, while the outer part is the white transparent background. I need to include the '0' level, otherwise the inner contour is left blank (BTW, I find it odd, and it is the same for IDL 8.4).

>>>

>>> On the other hand, if you launch it in IDL 8.4, there's a big difference: also the outer part is filled! Of course, I can give an explicit white color to it, but it's not the same, because it is not treated as a completely transparent background. So, when you put a contour above another, in IDL 8.0 everything is fine, because the outer part is completely transparent, while in IDL 8.4, you see also this outer part. Using 'max\_value=0.5' is not an equivalent solution.

>>>

>>> What changed between 8.0 and 8.4? How can I revert to the 8.0 behaviour? I basically want to draw three filled contours, and leave the white transparent background in the rest of the image.

>>>

>>> Thanks,

>>>

>>> Stefano

>>

>> Hi,

>>

>> just to be more specific, this is a plot I had in IDL 8.0:

>>

>> <https://img42.com/MOnas>

>>

>> and this is what I get (exactly with the same code) in IDL 8.4:

>>

>> <https://img42.com/KSkRc>

>>

>> As you can see, in the latter the background of the reddish contour plot is still visible, because it's indeed a filled contour level, while in IDL 8.0 it is simply background. How can I get rid of it?

>>

>> Something clearly changed after IDL 8.0, I hope there's some kind of switch/parameter that I don't understand that can be set to have the old behaviour. I even thought about reconstructing the contour levels polygons, and then fill them, but, apparently, there's no way to get the polygons in function graphics (!?).

>>

>> Thanks,

>>

>> Stefano

>>

>> P.S. I had a chance to test this code on IDL 8.2, and it behaves like 8.4.

>

> I don't have a specific solution, but here are a couple things to investigate.

>

> According to the docs for the CONTOUR function,

<http://www.harrisgeospatial.com/docs/CONTOUR.html>, a number of keywords were added in IDL 8.2 that may address this. These include BACKGROUND\_COLOR and BACKGROUND\_TRANSPARENCY, and probably changed the default behaviors.

>

> Comparing the contour properties in 8.0 versus later versions may help, as well, e.g.,

>

> IDL> print, smooth

>

> For example, the "c\_color" property represented a color table index in 8.0 [0, 47, 73, 125], while in later versions c\_color contains RGB triplets, [[0, 0, 13], [0, 13, 141], ...].

Dear Jim,

thank you for your reply.

As for the new keywords, BACKGROUND\_COLOR and BACKGROUND\_TRANSPARENCY, they have no effect in my case, because they simply change the background color and transparency (as expected), but my problem is that in 8.2+ that part is not background, but a filled contour!

On the other hand, I had a look at the contour properties, as you suggested, and it seems to me that there are two main differences.

1. IDL 8.0: N\_LEVELS = 4 -- IDL 8.4: N\_LEVELS = 0

If I include a n\_levels=3 keyword in the command line, nothing changes for IDL 8.4 (as expected, the c\_values are dominant), while in IDL 8.0 the c\_values are ignored (which is not what I would expect). I don't know how this could affect my issue

2. As you correctly pointed out, c\_color is different. So I changed the keyword in

c\_value=[level\_0,level\_1, level\_2, level\_3], c\_color=['blue', 'green', 'red']

which still reproduces the issue I'm trying to solve, but it seems to me easier to interpret. And here's a hint:

IDL 8.0: print, smooth.c\_color

```
0 0 255
0 127 0
255 0 0
```

IDL8.4: print, smooth.c\_color

```
0 0 255
0 127 0
255 0 0
0 0 255
0 127 0
```

There are indeed two further colors defined! I think this is why the contours are filled also outside. No matter if I define less colors, always  $n+1$  colors are stored in `c_color` (repeated cyclically). So how can I delete these two colors and have only background after the first three contours?

Further ideas?

In any case, I found the fill contour implementation in IDL counter-intuitive, because it seems to me that it actually fills the outside of the contour, not the inside...

Thanks,

Stefano

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