
Subject: Re: Confused about image dimensions

Posted by [Helder Marchetto](#) on Mon, 01 Jun 2015 21:35:49 GMT

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On Monday, June 1, 2015 at 9:18:36 PM UTC+2, alx wrote:

> Le lundi 1 juin 2015 17:27:14 UTC+2, Helder a écrit :

>> Hi,

>> maybe I'm missing something very basic...

>> Suppose I make an image with these commands:

>> w = window(dimension=[600,600])

>> i = image(dist(600), margin=0, image_dimensions=[100,100], current=w)

>>

>> The idea is that the image has 600x600 pixels, but the units are 100x100.

>> So each pixel (device units) has a size of 6.

>>

>> If I now change the data:

>> i.setData, dist(300)

>>

>> It turns out that the "image does not change" (in appearance) and not the 300 pixel correspond to 100 units. So that the pixel has a size of 3 units.

>>

>> Can I redefine, after the setData, the image_dimensions?

>>

>> I did notice that the "image_dimensions" keyword is under the "Keywords are applied only during the initial creation of the graphic." part of the help. Just looking for a way around this.

>>

>> Thanks,

>> Helder

>

> Keywords IMAGE_DIMENSIONS and IMAGE_LOCATION are meant for replacing X and Y vectors in case of a regularly sampled image, independently on the number of pixels in the image.

> For example, given the array A[300,300],

> i = image(A, IMAGE_DIMENSIONS=[100,150], IMAGE_LOCATION=[20,30])

> means that the X-axis goes from 20 to 120 and Y-axis from 30 to 180.

>

> alx.

Thanks Alx.

Ok, so I think I got this. I need to use:

i.setData, dist(300), xVector, yVector

I tried this and the result puzzled me quite a bit.

Lets start from looking at what I get when I print the image object (in my case i) after creation:

IDL> i = image(dist(600), margin=0, image_dimensions=[100,100], current=w)

IDL> i

SCALE_CENTER	= 50.000000	50.000000
XRANGE	= 0.00000000	100.00000
YRANGE	= 0.00000000	100.00000

I only left the relevant results above.

If I use `dist(300)` I get exactly the same result.

If I then insert a image using two vectors `x` and `y`, here is what I get:

```
IDL> i.setData, dist(300), cgscalevector(findgen(300),0,100, /double),  
cgscalevector(findgen(300),0,100, /double)
```

```
SCALE_CENTER      = 50.167224    50.167224  
XRANGE            = 0.00000000    100.33445  
YRANGE            = 0.00000000    100.33445
```

Why is `xrange` not ending at 100? I would expect that because

```
IDL> min(cgscalevector(findgen(300),0,100, /double))
```

```
0.000000000000000000
```

```
IDL> max(cgscalevector(findgen(300),0,100, /double))
```

```
100.0000000000000000
```

In order to get the original result, I need this:

```
IDL> i.setData, dist(300), cgscalevector(findgen(300),0,99.0+2.0/3d, /double),  
cgscalevector(findgen(300),0,99.0+2.0/3d, /double)
```

```
SCALE_CENTER      = 50.000000    50.000000  
XRANGE            = 0.00000000    100.00000  
YRANGE            = 0.00000000    100.00000
```

With:

```
IDL> min(cgscalevector(findgen(300),0,99.0+2.0/3d, /double))
```

```
0.000000000000000000
```

```
IDL> max(cgscalevector(findgen(300),0,99.0+2.0/3d, /double))
```

```
99.666666666666671
```

Where is this missing third coming from?

Thanks,
Helder

PS: pardon my being pedantic...
