Subject: creating elliptically shaped images
Posted by mruschin on Mon, 24 Nov 2003 15:12:37 GMT
View Forum Message <> Reply to Message

I'd like to form an image which has an elliptical shape and where all the pixels within this ellipse have values corresponding to any given function that I would specify, the simplest example being a uniform image (i.e. a value of 1 for all the pixels in the ellipse). Is there any nice way to do this in IDL or MATLAB other than looping through all the pixels and determining whether any given one lies within the ellipse?

Mark

Subject: Re: creating elliptically shaped images
Posted by condor on Wed, 03 Dec 2003 17:24:55 GMT
View Forum Message <> Reply to Message

mruschin@hotmail.com (mark) wrote in message
news:<a9116224.0311240712.618f4088@posting.google.com>...
> I'd like to form an image which has an elliptical shape and where all
> the pixels within this ellipse have values corresponding to any given
> function that I would specify, the simplest example being a uniform
> image (i.e. a value of 1 for all the pixels in the ellipse). Is there
> any nice way to do this in IDL or MATLAB other than looping through
> all the pixels and determining whether any given one lies within the
> ellipse?

In IDL at least, you can send raw strings to your output device.
Depending on the device, you could use that to send clipping
instructions.

If you were plotting into a PostScript file for example, this might
look vaguely like this:

```
;; Some random dots to plot:
  x=randomu(seed,5000)
  y=randomu(seed,5000)

  set_plot,'PS'
  device,/landscape

;; plot without clipping to show where the dots are:

  plot,x,y,psym=3
```

```
;; PS clipping path -- here vaguely elliptical, but could be anything:

  clipstring='currentpoint 37 rotate 1 .5 scale '+$
     'newpath 15000 5000 5000 0 360 arc clip '+$
     '1 2 scale -37 rotate newpath moveto'

  device,output=clipstring

;; plot again with different psym to illustrate clipping:

  oplot,x,y,psym=4

  device,/close
  set_plot,'X'
```

Subject: Re: creating elliptically shaped images
Posted by Paul Sorenson on Wed, 03 Dec 2003 23:03:21 GMT
View Forum Message <> Reply to Message

mruschin@hotmail.com (mark) wrote in message
news:<a9116224.0311240712.618f4088@posting.google.com>...
>> I'd like to form an image which has an elliptical shape and where all
>> the pixels within this ellipse have values corresponding to any given
>> function that I would specify, the simplest example being a uniform
>> image (i.e. a value of 1 for all the pixels in the ellipse). Is there
>> any nice way to do this in IDL or MATLAB other than looping through
>> all the pixels and determining whether any given one lies within the
>> ellipse?
>
This sounds like a job for IDLanROI::ContainsPoints. It can identify what
points are in a region without requiring a loop.

-Paul Sorenson
