Subject: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Tue, 02 Jun 2015 15:03:09 GMT
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Hi

I created the following procedure to overplot vectors on the images.

PRO vectors_overlaid, Image, VX, VY, name

dims_i_need = Size(Dindgen(20,20), /Dimensions)
pos_x = Rebin(Findgen(dims_i_need[0]), dims_i_need[0], dims_i_need[1])
pos_y = Rebin(Reform(Findgen(dims_i_need[1]), 1, dims_i_need[1]), dims_i_need[0],
dims_i_need[1])

cgDisplay, 500, 550
cgimage, image
cgDrawVectors, Vx, Vy, pos_x, pos_y,VECCOLORS='yellow', /ORDERED, overplot = 1

Then looping over the time point:

for i=0L,N-1 do begin
  vecotrs_overlaid, Reform(Image[i,*,*]), reform(VX[i,*,*]),reform(VY[i,*,*]),('+strtrim(i)+').jpeg')
endfor

Instead of exporting jpegs I want to export gif format instead. I used the write_gif before but I used
only images. Now I want to overplot the vectors on the images. Does anyone knows how to use
the cgDrawVectors in write_gif procedure?

Many Thanks

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by David Fanning on Tue, 02 Jun 2015 15:26:47 GMT
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g.nacarts@gmail.com writes:

>
> Hi
>
> I created the following procedure to overplot vectors on the images.
>
> PRO vectors_overlaid, Image, VX, VY, name
>
> dims_i_need = Size(Dindgen(20,20), /Dimensions)

> pos_x = Rebin(Findgen(dims_i_need[0]), dims_i_need[0], dims_i_need[1])
> pos_y = Rebin(Reform(Findgen(dims_i_need[1]), 1, dims_i_need[1]), dims_i_need[0],
dims_i_need[1])
>
>
> cgDisplay, 500, 550
> cgimage, image
> cgDrawVectors, Vx, Vy, pos_x, pos_y,VECCOLORS='yellow', /ORDERED, overplot = 1
>
> Then looping over the time point:
>
> for i=0L,N-1 do begin
>   vecotrs_overlaid, Reform(Image[i,*,*]), reform(VX[i,*,*]),reform(VY[i,*,*]),('+strtrim(i)+').jpeg')
> endfor
>
>
> Instead of exporting jpegs I want to export gif format instead. I used the write_gif before but I
used only images. Now I want to overplot the vectors on the images. Does anyone knows how to
use the cgDrawVectors in write_gif procedure?
>
> Many Thanks

void = cgSnapshot(/GIF, Filename='whateverYouLike', /NoDialog)

On-line help here:

  http://www.idlcoyote.com/idldoc/cg/index.html

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Tue, 02 Jun 2015 16:28:17 GMT
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I have some difficulties with the folloing:

void = cgSnapshot(/GIF, Filename='whateverYouLike', /NoDialog)

It doesn't give me the series of the images. It gives only the last one

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by David Fanning on Tue, 02 Jun 2015 16:33:52 GMT

g.nacarts@gmail.com writes:

> I have some difficulties with the folloing:
>
> void = cgSnapshot(/GIF, Filename='whateverYouLike', /NoDialog)
>
> It doesn't give me the series of the images. It gives only the last one

Perhaps you are naming the files incorrectly. Do they all have the same name?

  http://www.idlcoyote.com/code_tips/seqfiles.html

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Wed, 03 Jun 2015 09:55:33 GMT

Well, I typed the following and I ended up with 100 different gif files (i.e. each image in a separate gif). What I want is to play as a movie in one gif file.

```
for i=0L,N-1 do begin
  cgDisplay, 500, 550
  cgimage, Reform(Reform(Image[i,*,*])[i,*,*])
  cgDrawVectors,  reform(VX[i,*,*]),reform(VY[i,*,*]), pos_x, pos_y,VECCOLORS='yellow',
/ORDERED, overplot = 1
  void = cgSnapshot(/GIF,     Filename='C:\Users\Desktop\Vectors('+string(i,format='(i3.3)
')+','+string(level)+','+strtrim(iter)+')', /NoDialog)
endfor
```

I added the level and iter because is looping over those two loops as well.

Subject: Re: help with cgDrawVectors in write_gif procedure

Posted by Helder Marchetto on Wed, 03 Jun 2015 10:17:02 GMT
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On Wednesday, June 3, 2015 at 11:55:35 AM UTC+2, g.na...@gmail.com wrote:
> Well, I typed the following and I ended up with 100 different gif files (i.e. each image in a separate gif). What I want is to play as a movie in one gif file.
>
> for i=0L,N-1 do begin
>   cgDisplay, 500, 550
>   cgimage, Reform(Reform(Image[i,*,*])[i,*,*])
>   cgDrawVectors, reform(VX[i,*,*]),reform(VY[i,*,*]), pos_x, pos_y,VECCOLORS='yellow', /ORDERED, overplot = 1
>   void = cgSnapshot(/GIF,   Filename='C:\Users\Desktop\Vectors('+string(i,format='(i3.3) ')+','+string(level)+','+strtrim(iter)+')', /NoDialog)
> endfor
>
> I added the level and iter because is looping over those two loops as well.

Did you look at the /MULTIPLE option in write_gif?

http://www.exelisvis.com/docs/WRITE_GIF.html

This should do what you're looking for.

cheers,
Helder

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Wed, 03 Jun 2015 10:26:33 GMT
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Actually I used write_gif before. But I had only one image. Now I need to overplot the vectors on top of the image that's why I didn't manage to do that.

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by Helder Marchetto on Wed, 03 Jun 2015 10:57:56 GMT
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On Wednesday, June 3, 2015 at 12:26:34 PM UTC+2, g.na...@gmail.com wrote:
> Actually I used write_gif before. But I had only one image. Now I need to overplot the vectors on top of the image that's why I didn't manage to do that.

It's a bit tricky, but all the info is out there. Below is a working solution to make a series of gifs with rotating arrow arrow:

pro testGifOut

```
xSize = 400
ySize = 400
window, xsize=xSize, ysize=ySize, /free
tvscl, bytscl(sin(dist(xSize)))
xPos = cos(!pi*2.0*findgen(11)/10.0)
yPos = sin(!pi*2.0*findgen(11)/10.0)
cgArrow, 0.5, 0.5, 0.3*xPos[0]+0.5, 0.3*yPos[0]+0.5, /Solid, /normal, thick=4, color='red'
inImg = tvrd(0, 0, xSize, ySize, /True)
image2D = color_quan(inImg, 1, r, g, b, Colors=256)
write_gif, 'testGif.gif', image2D, r, g, b, /multiple, repeat_count=0, delay_time=20
for i=1,10 do begin
   tvscl, bytscl(sin(dist(xSize)*i*0.1))
   cgArrow, 0.5, 0.5, 0.3*xPos[i]+0.5, 0.3*yPos[i]+0.5, /Solid, /normal, thick=4, color='red'
   inImg = tvrd(0, 0, xSize, ySize, /True)
   image2D = color_quan(inImg, 1, r, g, b, Colors=256)
   write_gif, 'testGif.gif', image2D, r, g, b, /multiple, repeat_count=0, delay_time=20
endfor
write_gif, 'testGif.gif', image2D, /close
end
```

Hope it helps,
Helder

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Wed, 03 Jun 2015 12:39:25 GMT
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I tried the following but I always get the same error: OPENW: Filename argument must be a scalar string: FILE.

```
for i=0L, n-1 do begin
  cgDisplay, 500, 550
  Image = BYTSCL(Image, min=0.,max=160.)
  cgimage,Reform(Image[i,*,*])
  cgDrawVectors, REFORM(VX[i,*,*]), REFORM(VY[i,*,*]), pos_x, pos_y,VECCOLORS='yellow',
/ORDERED, overplot = 1
  write_gif,file, Reform(Image[i,*,*]), /multiple
endfor

write_gif, file, /close
```

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by David Fanning on Wed, 03 Jun 2015 12:42:32 GMT
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g.nacarts@gmail.com writes:

> I tried the following but I always get the same error: OPENW: Filename argument must be a
scalar string: FILE.
>
> for i=0L, n-1 do begin
> cgDisplay, 500, 550
> Image = BYTSCL(Image, min=0.,max=160.)
> cgimage,Reform(Image[i,*,*])
> cgDrawVectors, REFORM(VX[i,*,*]), REFORM(VY[i,*,*]), pos_x,
pos_y,VECCOLORS='yellow', /ORDERED, overplot = 1
> write_gif,file, Reform(Image[i,*,*]), /multiple
> endfor
>
> write_gif, file, /close

Perhaps it is easier to just download or use one of the multitude of
free apps that create an animated GIF from individual files.

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by Helder Marchetto on Wed, 03 Jun 2015 12:45:27 GMT
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On Wednesday, June 3, 2015 at 2:39:27 PM UTC+2, g.na...@gmail.com wrote:
> I tried the following but I always get the same error: OPENW: Filename argument must be a
scalar string: FILE.
>
> for i=0L, n-1 do begin
> cgDisplay, 500, 550
> Image = BYTSCL(Image, min=0.,max=160.)
> cgimage,Reform(Image[i,*,*])
> cgDrawVectors, REFORM(VX[i,*,*]), REFORM(VY[i,*,*]), pos_x,
pos_y,VECCOLORS='yellow', /ORDERED, overplot = 1
> write_gif,file, Reform(Image[i,*,*]), /multiple
> endfor
>
> write_gif, file, /close

Hi,
when you get an error that says:
"OPENW: Filename argument must be a scalar string: FILE."
you should check if your variable file is a string or a scalar. In case you're doubting... it has to be a scalar.
Maybe use file[i]?

Cheers,
Helder

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Wed, 03 Jun 2015 14:54:26 GMT
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> Perhaps it is easier to just download or use one of the multitude of
> free apps that create an animated GIF from individual files.

Yea maybe it's better.

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Wed, 03 Jun 2015 14:55:38 GMT
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> Hi,
> when you get an error that says:
> "OPENW: Filename argument must be a scalar string: FILE."
> you should check if your variable file is a string or a scalar. In case you're doubting... it has to
be a scalar.
> Maybe use file[i]?

I tried file[i] and so many other things. I will see what I can do. Thanks a lot for your help

---

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Wed, 03 Jun 2015 15:39:14 GMT
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> "OPENW: Filename argument must be a scalar string: FILE."
> you should check if your variable file is a string or a scalar.

I used
help, file
to check whether is a string or a scalar and I got the following

FILE   UNDEFINED = <Undefined>

OPENW: Filename argument must be a scalar string: FILE.

I will share my code because maybe I did a mistake somewhere else and I am not able to find it. I have the following procedure. (Image,VX,VY are 3D arrays.)

```
PRO vectors_overlaid, Image, VX, VY, name

dims_i_need = Size(Dindgen(20,20), /Dimensions)

pos_x = Rebin(Findgen(dims_i_need[0]), dims_i_need[0], dims_i_need[1])
pos_y = Rebin(Reform(Findgen(dims_i_need[1]), 1, dims_i_need[1]), dims_i_need[0],
dims_i_need[1])

for i=0L, n-1 do begin
  cgDisplay, 500, 550
  Image = BYTSCL(Image, min=0.,max=160.)
  cgimage,Reform(Image[i,*,*])
  cgDrawVectors, REFORM(VX[i,*,*]), REFORM(VY[i,*,*]), pos_x, pos_y,VECCOLORS='yellow',
/ORDERED, overplot = 1
  write_gif,file, Reform(Image[i,*,*]), /multiple
endfor

write_gif, file, /close
END
```

Then I called the vectors_overlaid in my main program like this

```
vectors_overlaid, Image, VX,VY,  'C:\Users\Desktop\Vectors('+string(i,format='(i3.3)')+','+st
ring(level)+','+strtrim(iter)+')'.gif'
```

Why the file is undefined?

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by Helder Marchetto on Wed, 03 Jun 2015 15:47:08 GMT

On Wednesday, June 3, 2015 at 5:39:15 PM UTC+2, g.na...@gmail.com wrote:
>> "OPENW: Filename argument must be a scalar string: FILE."
>> you should check if your variable file is a string or a scalar.
>
> I used
> help, file
> to check whether is a string or a scalar and I got the following
>
> FILE   UNDEFINED = <Undefined>
> OPENW: Filename argument must be a scalar string: FILE.

>
> I will share my code because maybe I did a mistake somewhere else and I am not able to find it. I have the following procedure. (Image,VX,VY are 3D arrays.)
>
>
> PRO vectors_overlaid, Image, VX, VY, name
>
> dims_i_need = Size(Dindgen(20,20), /Dimensions)
>
> pos_x = Rebin(Findgen(dims_i_need[0]), dims_i_need[0], dims_i_need[1])
> pos_y = Rebin(Reform(Findgen(dims_i_need[1]), 1, dims_i_need[1]), dims_i_need[0], dims_i_need[1])
>
> for i=0L, n-1 do begin
>   cgDisplay, 500, 550
>   Image = BYTSCL(Image, min=0.,max=160.)
>   cgimage,Reform(Image[i,*,*])
>   cgDrawVectors, REFORM(VX[i,*,*]), REFORM(VY[i,*,*]), pos_x, pos_y,VECCOLORS='yellow', /ORDERED, overplot = 1
>   write_gif,file, Reform(Image[i,*,*]), /multiple
> endfor
>
> write_gif, file, /close
> END
>
> Then I called the vectors_overlaid in my main program like this
>
> vectors_overlaid, Image, VX,VY, 'C:\Users\Desktop\Vectors('+string(i,format='(i3.3)')+','+st ring(level)+','+strtrim(iter)+')'.gif'
>
> Why the file is undefined?

Ok, this is something you should be able to solve by looking at what the error messages tell you and what the help, file told you (file is undefined!).

In your procedure declaration you use:
PRO vectors_overlaid, Image, VX, VY, name

These variable names have to be used in the procedure. This means that when you call:
vectors_overlaid, Image, VX,VY, 'C:\Users\Desktop\Vectors('+string(i,format='(i3.3)')+','+st ring(level)+','+strtrim(iter)+')'.gif'

the variable "name" assumes the value 'C:\Users\Desktop\Vectors('+string(i,format='(i3.3)')+','+st ring(level)+','+strtrim(iter)+')'.gif'

so in *all* your write_gif commands you should substitute "file" with "name".

That should bring you a step further.

Cheers,
Helder

Helder writes:

>
> On Wednesday, June 3, 2015 at 5:39:15 PM UTC+2, g.na...@gmail.com wrote:
>>> "OPENW: Filename argument must be a scalar string: FILE."
>>> you should check if your variable file is a string or a scalar.
>>
>> I used
>> help, file
>> to check whether is a string or a scalar and I got the following
>>
>> FILE   UNDEFINED = <Undefined>
>> OPENW: Filename argument must be a scalar string: FILE.
>>
>> I will share my code because maybe I did a mistake somewhere else and I am not able to find
it. I have the following procedure. (Image,VX,VY are 3D arrays.)
>>
>>
>> PRO vectors_overlaid, Image, VX, VY, name
>>
>> dims_i_need = Size(Dindgen(20,20), /Dimensions)
>>
>> pos_x = Rebin(Findgen(dims_i_need[0]), dims_i_need[0], dims_i_need[1])
>> pos_y = Rebin(Reform(Findgen(dims_i_need[1]), 1, dims_i_need[1]), dims_i_need[0],
dims_i_need[1])
>>
>> for i=0L, n-1 do begin
>>   cgDisplay, 500, 550
>>   Image = BYTSCL(Image, min=0.,max=160.)
>>   cgimage,Reform(Image[i,*,*])
>>   cgDrawVectors, REFORM(VX[i,*,*]), REFORM(VY[i,*,*]), pos_x,
pos_y,VECCOLORS='yellow', /ORDERED, overplot = 1
>>   write_gif,file, Reform(Image[i,*,*]), /multiple
>> endfor
>>
>> write_gif, file, /close
>> END
>>
>> Then I called the vectors_overlaid in my main program like this

---

\>\>
\>\> vectors_overlaid, Image, VX,VY, 'C:\Users\Desktop\Vectors('+string(i,format='(i3.3)')+','+st
ring(level)+','+strtrim(iter)+')'.gif'
\>\>
\>\> Why the file is undefined?
\>
\> Ok, this is something you should be able to solve by looking at what the error messages tell you
and what the help, file told you (file is undefined!).
\>
\> In your procedure declaration you use:
\> PRO vectors_overlaid, Image, VX, VY, name
\>
\> These variable names have to be used in the procedure. This means that when you call:
\> vectors_overlaid, Image, VX,VY, 'C:\Users\Desktop\Vectors('+string(i,format='(i3.3)')+','+st
ring(level)+','+strtrim(iter)+')'.gif'
\>
\> the variable "name" assumes the value
'C:\Users\Desktop\Vectors('+string(i,format='(i3.3)')+','+st ring(level)+','+strtrim(iter)+')'.gif'
\>
\> so in *all* your write_gif commands you should substitute "file" with "name".
\>
\> That should bring you a step further.

It should, but it still feels like an unfathomable long way to the
finish line.

Since the images you want to animate already exist in individual files,
if you insist on doing this completely in IDL (not my recommendation),
you should think about opening each file in succession, reading the
image data, and storing that in a new, multiple frame GIF file.

That should be a simple, concise loop to write. The algorithm looks like
this:

  1. Open a GIF file, set up for multiple images.
  2. Start a loop.
     a. Read the image from one of the image files.
     b. Store the image in the open GIF file as a "frame"
  3. End the loop.
  4. Close the open GIF file.

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Fri, 05 Jun 2015 14:34:30 GMT

I will use an app to create an animated gif is much easier at the end.

I have a problem with the cgSnapshot. I wanted to create different folders each time for different level and iteration. At first I saved everything in one folder but it was too messy (Vectors(i,level,iter)).

```
for i=0L, n-1 do begin
  cgDisplay, 500, 550
  Image = BYTSCL(Image, min=0.,max=160.)
  cgimage,Reform(Image[i,*,*])
  cgDrawVectors, REFORM(VX[i,*,*]), REFORM(VY[i,*,*]), pos_x, pos_y,VECCOLORS='yellow',
/ORDERED, overplot = 1
  void = cgSnapshot(/tif, Filename =  'C:\Users\Desktop\FOLDER\Vectors('+string(i)+','+string(leve
l)+','+strtrim(iter)+')', /NoDialog)
endfor
```

I wanted to save all the time points (i) for each level and iter respectively in a separate folder.

```
void = cgSnapshot(/JPEG,  Filename='C:\Users\Desktop\FOLDER\Vector_Folder('+string(lev
el)+','+strtrim(iter)+')\Vectors('+string(i)+')', /NoDialog)
```

I got this error:"Error opening file".
Is that necessary to create the folders in advanced? They cannot be create during the process?

Because before I did something like that but not with the cgsnapshot

---

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by David Fanning on Fri, 05 Jun 2015 14:45:43 GMT

g.nacarts@gmail.com writes:

>
> I will use an app to create an animated gif is much easier at the end.
>
> I have a problem with the cgSnapshot. I wanted to create different folders each time for

---

different level and iteration. At first I saved everything in one folder but it was too messy (Vectors(i,level,iter)).
>
> for i=0L, n-1 do begin
>   cgDisplay, 500, 550
>   Image = BYTSCL(Image, min=0.,max=160.)
>   cgimage,Reform(Image[i,*,*])
>   cgDrawVectors, REFORM(VX[i,*,*]), REFORM(VY[i,*,*]), pos_x, pos_y,VECCOLORS='yellow', /ORDERED, overplot = 1
>   void = cgSnapshot(/tif, Filename =
'C:\Users\Desktop\FOLDER\Vectors('+string(i)+','+string(leve l)+','+strtrim(iter)+')', /NoDialog)
> endfor
>
> I wanted to save all the time points (i) for each level and iter respectively in a separate folder.
>
> void = cgSnapshot(/JPEG, Filename='C:\Users\Desktop\FOLDER\Vector_Folder('+string(lev el)+','+strtrim(iter)+')\Vectors('+string(i)+')', /NoDialog)
>
> I got this error:"Error opening file".
> Is that necessary to create the folders in advanced? They cannot be create during the process?
>
> Because before I did something like that but not with the cgsnapshot

Given the history of this discussion, I think I might suspect programmer
error before I blamed cgSnapshot. I've never tried to tell it to open a
file in a location that didn't exist, so I'm not sure what it would do.
I'm pretty sure if someone asked me to do the same, I would complain.
:-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: help with cgDrawVectors in write_gif procedure
Posted by g.nacarts on Fri, 05 Jun 2015 14:50:07 GMT
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I didn't blame cgSnapshot. I've never used before this procedure before that's why I asked. So it opens a file in a location. I thought it creates