
Subject: Re: how to read/display an image like it's done in ENVI?

Posted by [David Fanning](#) on Tue, 29 Dec 2009 01:10:53 GMT

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Hassan writes:

```
> I have an multi-band image [488,290,62] and opened it in ENVI. I need
> to work with a particular pixel for example pixel with column 300 and
> row 160 in band 1. after importing the image in IDL, i couldnt find
> the pixel.
> print, image[300,160,0] >>> it shows me a pixel value that is
> different with the one is shown in ENVI
> I flipped the image (using reverse function) and consider it starts
> with column=0 and row=0 in IDL but still couldnt find the pixel.
> image=reverse[image,2]
> print, image[299,159]
>
> I'm not sure if I describe the problem clearly so please let me know
> if you need more explanation.
```

ENVI uses an indexing system that starts at [1,1],
rather than the [0,0] of IDL. Could that be the
problem?

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: how to read/display an image like it's done in ENVI?

Posted by [Hassan](#) on Tue, 29 Dec 2009 11:05:03 GMT

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On Dec 29, 1:10 am, David Fanning <n...@dfanning.com> wrote:

```
> Hassan writes:
```

```
>> I have an multi-band image [488,290,62] and opened it in ENVI. I need
>> to work with a particular pixel for example pixel with column 300 and
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> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
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> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Hi David,

No, I took that into account as well for example if the pixel value of the position [300,160,0]/[column,row,band] the equivalent pixel in the flipped image in IDL should be [299,160,0] but the pixel value doesn't match.

Thanks
Hasan

Subject: Re: how to read/display an image like it's done in ENVI?

Posted by [David Fanning](#) on Tue, 29 Dec 2009 12:31:20 GMT

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Hassan writes:

> No, I took that into account as well for example if the pixel value of
> the position [300,160,0]/[column,row,band] the equivalent pixel in the
> flipped image in IDL should be [299,160,0] but the pixel value doesn't
> match.

Shouldn't that be [299, 159, 0]?

Cheers,

David

--

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Subject: Re: how to read/display an image like it's done in ENVI?

Posted by [Hassan](#) on Tue, 29 Dec 2009 13:15:16 GMT

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On Dec 29, 12:31 pm, David Fanning <n...@dfanning.com> wrote:

> Hassan writes:

>> No, I took that into account as well for example if the pixel value of
>> the position [300,160,0]/[column,row,band] the equivalent pixel in the
>> flipped image in IDL should be [299,160,0] but the pixel value doesn't
>> match.

>

> Shouldn't that be [299, 159, 0]?

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> Cheers,

>

> David

>

> --

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yeah, It is [299,159,0] but the problem still exists. I used the following commands to import the data from ENVI:

```
ENVI> ENVI_OPEN_FILE, image, /NO_REALIZE, R_FID=FID
```

```
ENVI> ;If it is a valid file, read the header
```

```
ENVI> ;if (fid[0] eq -1) then return, -1
```

```
ENVI> envi_file_query, fid, ns=dimX, nl=dimY, nb=nbBands,
```

```
DATA_TYPE=dataType,$
```

```
ENVI>   OFFSET = HeaderOffSet, LOOKUP= lookup, class_names =  
classNames,$
```

```
ENVI>   num_classes = numClasses
```

```
ENVI> map_Info = ENVI_GET_MAP_INFO(FID=FID)
```

```
ENVI> ;Pack the header info in a structure (optional)
```

```
ENVI> headerInfo = {ns:dimX, nl:dimY, lookup:lookup,
map_info:map_Info}
ENVI> data = read_binary(ref2,data_Start = HeaderOffSet,$
ENVI>      data_Type=dataType, data_Dims=[dimX,dimY,nbBANDS],ENDIAN
= "native")
ENVI>      image=data
```

do you think has something unusual happened?

Subject: Re: how to read/display an image like it's done in ENVI?

Posted by [Hassan](#) on Tue, 29 Dec 2009 13:26:52 GMT

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On Dec 29, 1:15 pm, Hassan <hkhav...@gmail.com> wrote:

> On Dec 29, 12:31 pm, David Fanning <n...@dfanning.com> wrote:

>

>

>

>> Hassan writes:

>>> No, I took that into account as well for example if the pixel value of

>>> the position [300,160,0]/[column,row,band] the equivalent pixel in the

>>> flipped image in IDL should be [299,160,0] but the pixel value doesn't

>>> match.

>

>> Shouldn't that be [299, 159, 0]?

>

>> Cheers,

>

>> David

>

>> --

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>

> yeah, It is [299,159,0] but the problem still exists. I used the

> following commands to import the data from ENVI:

> ENVI> ENVI_OPEN_FILE, image, /NO_REALIZE , R_FID=FID

> ENVI> ;If it is a valid file, read the header

> ENVI> ;if (fid[0] eq -1) then return, -1

> ENVI> envi_file_query, fid, ns=dimX, nl=dimY, nb=nbBands,

> DATA_TYPE=dataType,\$

> ENVI> OFFSET = HeaderOffSet, LOOKUP= lookup, class_names =

> classNames,\$

> ENVI> num_classes = numClasses

> ENVI> map_Info = ENVI_GET_MAP_INFO(FID=FID)

```
> ENVI> ;Pack the header info in a structure (optional)
> ENVI> headerInfo = {ns:dimX, nl:dimY, lookup:lookup,
> map_info:map_Info}
> ENVI> data = read_binary(ref2,data_Start = HeaderOffset,$
> ENVI>      data_Type=dataType, data_Dims=[dimX,dimY,nbBANDS],ENDIAN
> = "native")
> ENVI>      image=data
>
> do you think has something unusual happened?
```

I used the Export to IDL function in ENVI and it works fine so there should be something wrong in the way I imported the data.

Subject: Re: how to read/display an image like it's done in ENVI?
Posted by [Chris Jengo](#) on Tue, 29 Dec 2009 13:46:07 GMT
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Is there a specific reason why you need to do this in IDL rather than just using the ENVI functions ENVI_GET_DATA or ENVI_GET_SLICE?

Subject: Re: how to read/display an image like it's done in ENVI?
Posted by [Hassan](#) on Tue, 29 Dec 2009 14:00:17 GMT
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On Dec 29, 1:46 pm, Chris Jengo <cje...@gmail.com> wrote:
> Is there a specific reason why you need to do this in IDL rather than
> just using the ENVI functions ENVI_GET_DATA or ENVI_GET_SLICE?

using envi_get_data I just can import two dimensional image at a time and I think I need a loop for importing three dimensional data. envi_get_slice is just for extracting specific line of the data in specific band/s while I'm importing the whole data.

Subject: Re: how to read/display an image like it's done in ENVI?
Posted by [David Fanning](#) on Tue, 29 Dec 2009 14:06:48 GMT
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Hassan writes:

> do you think has something unusual happened?

I don't know. The code you sent doesn't work. Could that be the problem?

Once I got the code to work, the ENVI value at [1,1] corresponded exactly to the image value at [0,0].

Here is the code I used.

```
filename = 'bhdemsub.img'
ENVI_OPEN_FILE, filename, /NO_REALIZE , R_FID=FID
envi_file_query, fid, ns=dimX, nl=dimY, nb=nbBands,$
    DATA_TYPE=dataType, OFFSET = HeaderOffset, $
    LOOKUP= lookup, class_names =classNames, $
    num_classes = numClasses
map_Info = ENVI_GET_MAP_INFO(FID=FID)
image = read_binary(filename,data_Start = HeaderOffset,$
    data_Type=dataType, data_Dims=[dimX,dimY,nbBANDS],$
    ENDIAN= "native")
```

Cheers,

David

--

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Subject: Re: how to read/display an image like it's done in ENVI?

Posted by [Hassan](#) on Tue, 29 Dec 2009 14:25:02 GMT

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On Dec 29, 2:06 pm, David Fanning <n...@dfanning.com> wrote:

> Hassan writes:

>> do you think has something unusual happened?

>

> I don't know. The code you sent doesn't work. Could
> that be the problem?

>

> Once I got the code to work, the ENVI value at [1,1]
> corresponded exactly to the image value at [0,0].

>

> Here is the code I used.

>

```
> filename = 'bhdemsub.img'
> ENVI_OPEN_FILE, filename, /NO_REALIZE , R_FID=FID
> envi_file_query, fid, ns=dimX, nl=dimY, nb=nbBands,$
>    DATA_TYPE=dataType, OFFSET = HeaderOffset, $
```

```
> LOOKUP= lookup, class_names =classNames, $
> num_classes = numClasses
> map_Info = ENVI_GET_MAP_INFO(FID=FID)
> image = read_binary(filename,data_Start = HeaderOffSet,$
>     data_Type=dataType, data_Dims=[dimX,dimY,nbBANDS],$
>     ENDIAN= "native")
>
> Cheers,
>
> David
>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
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> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
```

yeah the code is fine. I did a silly mistake, I read the the data in the wrong band I should've read [299,159,0] but I read [299,159,1] instead.

Subject: Re: how to read/display an image like it's done in ENVI?
Posted by [David Fanning](#) on Tue, 29 Dec 2009 14:40:05 GMT
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Hassan writes:

```
> yeah the code is fine. I did a silly mistake, I read the the data in
> the wrong band I should've read [299,159,0] but I read [299,159,1]
> instead.
```

Yes, if I could predict stocks as well as I can predict IDL outcomes I would be a rich man, indeed! ;-)

Cheers,

David

--
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Subject: Re: how to read/display an image like it's done in ENVI?

Posted by [Hassan](#) on Tue, 29 Dec 2009 15:44:44 GMT

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On Dec 29, 2:40 pm, David Fanning <n...@dfanning.com> wrote:

> Hassan writes:

>> yeah the code is fine. I did a silly mistake, I read the the data in

>> the wrong band I should've read [299,159,0] but I read [299,159,1]

>> instead.

>

> Yes, if I could predict stocks as well as I can predict

> IDL outcomes I would be a rich man, indeed! ;-)

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> Cheers,

>

> David

>

> --

> David Fanning, Ph.D.

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> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

yes indeed David :D, thanks for the help.
