
Subject: Re: what is the most convenient way to read an image generated by ENVI in IDL

Posted by [Peter Scarth](#) on Tue, 22 Oct 2002 08:40:58 GMT

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Hi Julia,

Assuming that you have ENVI on the system, you can use something like the following (pseudocode?) to read an ENVI image, and write the processed results back to an ENVI format file. Check the ENVI help for more info on the batch functions. If you don't have ENVI you will have to write some code to read the header. I have a kludgy solution I can send if you want.

Peter

--

(Change xmg to gmx to reply!)

```
PRO envi_batch_processing_demo
COMPILE_OPT strictarr
```

```
; Restore the ENVI save files and initialise
ENVI, /restore_base_save_files
ENVI_BATCH_INIT
```

```
; Open, query and read the entire image into an array
; Change dims and/or the pos variables to read in a subset
ENVI_OPEN_FILE, 'test.img', r_fid=fid
ENVI_FILE_QUERY, fid, ns=ns, nl=nl, nb=nb, $
    interleave=interleave, data_type=data_type, offset=offset
dims = [-1, 0, ns-1, 0, nl-1]
imgdata = ENVI_GET_DATA(fid=fid, dims=dims, pos=indgen(nb))
```

```
;
;
; Processing goes here to produce processed_data
;
```

```
; Write the output into a file...
; A simpler way might be to use the
; WRITE_ENVI_FILE procedure available at
; http://www.rsinc.com/services/output.cfm?tip_id=2787
fname = 'processed.img'
OPENW, unit, fname, /get_lun
WRITEU, unit, processed_data
FREE_LUN, unit
```

```
; Create an ENVI header for convenience
; Change ns, nl, nb, data_type, interleave and offset below
; if your processed_data differs from the input in type or size!
```

```
ENVI_SETUP_HEAD, fname=fname, ns=ns, nl=nl, nb=nb, $  
    interleave=interleave, data_type=data_type,$  
    offset=offset, /write
```

```
ENVI_BATCH_EXIT  
END
```

"Julia" <julia65201@yahoo.com> wrote in message
news:ap2fi4\$3oq\$1@dipsy.missouri.edu...

> Hi, there,

>

> After some operations in ENVI, I output the resulting image using the
format

> '.img'. It's an multispectral image.

> The '.hdr' head file is like this:

> ENVI

> description = {

> image [Fri Oct 18 11:01:10 2002]}

> samples = 116

> lines = 261

> bands = 4

> header offset = 0

> file type = ENVI Standard

> data type = 4

> interleave = bsq

> sensor type = Unknown

> byte order = 0

>

> My question is: how can I read this file using IDL functions?

> Now I am doing this using the following:

> imgdata = READ_BINARY('test.img', DATA_TYPE = 4, DATA_DIMS = [116, 261,
> 4]).

>

> But I need to specify the data type and dimensions of the image. How can I

> read it more generally that I need to specify nothing? Is there other

> functions in IDL?

>

> Any suggestion will be appreciated.

>

> Regards,

>

> Julia

>

>

>

Subject: Re: what is the most convenient way to read an image generated by ENVI in IDL

Posted by [Julia](#) on Tue, 22 Oct 2002 16:18:14 GMT

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Hi, Peter,

I think writing an image file is not difficult. But reading a file has some problem:

If we use ENVI function: ENVI_GET_DATA, from my experience, it can only read one band out each time.

If we use:

```
imgdata = ENVI_GET_DATA(fid=fid, dims=dims, pos=indgen(nb))
```

Though the image has several bands, it can only read the first band into imgdata.

So if you have some code to read the header written in IDL, could you please send to my email address:

julia65201@yahoo.com.

Thanks,

Julia

"Peter Scarth" <p.scarth@xmg.net> wrote in message

news:ap32uu\$vtk\$1@bunyip.cc.uq.edu.au...

> Hi Julia,

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> following (pseudocode?) to read an ENVI image, and write the processed

> results back to an ENVI format file. Check the ENVI help for more info on

> the batch functions. If you don't have ENVI you will have to write some

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> ; Change ns, nl, nb, data_type, interleave and offset below
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>
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>         interleave=interleave, data_type=data_type, $
>         offset=offset, /write
>
> ENVI_BATCH_EXIT
> END
>
>
>
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> "Julia" <julia65201@yahoo.com> wrote in message
> news:ap2fi4$3oq$1@dipsy.missouri.edu...
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Subject: Re: what is the most convenient way to read an image generated by ENVI in IDL

Posted by [Peter Scarth](#) on Wed, 23 Oct 2002 14:42:35 GMT

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Ooops, your absolutely correct.

To read in the entire file using ENVI_GET_DATA you need to create an array of the correct size & type & read it in band by band:

```
; Make an array to hold the data
imgdata=make_array(ns,nl,nb,type=data_type,/nozero)
; Read it in band by band
for pos=0,nb-1 do imgdata[*,*,pos] = ENVI_GET_DATA(fid=fid, dims=dims,
pos=pos)
```

I'll dig out the other code anyway & send it across.
Cheers,
Peter

"Julia" <julia65201@yahoo.com> wrote in message
news:ap3tie\$678\$1@dipsy.missouri.edu...

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