Subject: Re: Read 3D array into IDL
Posted by James Kuyper on Wed, 28 Apr 2004 19:55:46 GMT
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Tmorri wrote:
> I have a 3D array [409x233x5] in my C drive, I need to read the data into
> IDL and then process it.
> Could anyone tell me how to read the data?

Not until you explain the precise format of the data. Is the array an array of integers, floating point numbers, or strings? If it's numeric data, are the numbers stored as binary data or as ascii text strings? If binary format is used, how many bytes are used for the numbers? If it's in text format, what delimiters are used, if any?

In what order to the three dimensions vary? For instance, consider a 2x2x2 array named 'array'. One of the possible orders it could be printed out in is the following (this is the natural order for IDL):

array[0,0,0] array[1,0,0]
array[0,1,0] array[1,1,0]

array[0,0,1] array[1,0,1]
array[0,1,1] array[1,1,1]

On the assumption that your data is stored as an ascii text file containing 409*233*5 floating point numbers, with natural IDL dimension ordering, then the following should do the job quite nicely:

```
data = FLTARR(409,233,5)
OPENR,infile,'C:\path\name\filename.txt',/GET_LUN
READF,infile,data
CLOSE,infile
```

Subject: Re: Read 3D array into IDL
Posted by Tmorri on Thu, 29 Apr 2004 02:57:49 GMT
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this is the info I have about the data:

Dims: 409x233x5 [BIP]
Size: [Integer] 1,078,784 bytes
File type: AVHRR CD
Sensor type: AVHRR
Byte Order: Host [Intel]
Projection: None
Pixel: 4400 Meters

Upper Left Corner: 1,1
Description: AVHRR GHRR file

The file was downloaded from the internet, it contains satellite data (one image for each of the 5 channels of the sensor AVHRR in a NOAA satellite).

your code did the job very well, I could read the data into IDL, but when I displayed the Images on the screen I got something useless. Could you suggest anything else?

Thank you for your time and help.

Tmorri

Subject: Re: Read 3D array into IDL
Posted by jnettle1 on Sat, 01 May 2004 06:14:37 GMT
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the most obvious differences between James' code and the file info you presented, you need to use and intarr rather than a fltarr (but i'm betting you caught that yourself since IDL read the file without errors), and James' code would work for BSQ files (BSQ = band sequential). Your data are BIP (band interleaved by pixel), so more than likely you've read the data in the wrong order. You have a 5-band image cube. In BIP images, the values of each of all five bands for pixel (0,0) are read first, then all five for pixel (0,1), and so on. Reading the data in as BSQ assumes that the all values for all pixels for band 1 are first, followed by all values for all pixels for band 2, and so on. Lastly, you might need to set !order = 1 to have the origin be at the top left of the image cube rather than bottom left....I'm not sure about this one though.

Good luck, hope this helps.
Jeff

"Tmorri" <torrimorri@yahoo.com> wrote in message news:<9d9a7a938d21f6262254716c471d4d3e@localhost.talkaboutprogramming.com>...
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> Tmorri
