Subject: Re: Low pass filter - Problem with kernel
Posted by David Fanning on Tue, 03 Oct 2006 12:52:20 GMT
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Vidhya writes:

> Stuck with the error message:
>
> "% CONVOL: Incompatible dimensions for Array and Kernel.
> % Execution halted at: $MAIN$"
>
> while trying to apply a low pass filter to one of my image data.
>
> The array dimensions for kernel is
> IDL> help, kernel
> KERNEL FLOAT = Array[3, 3]
> IDL> help, column_log
> COLUMN_LOG FLOAT = Array[1, 374]
>
> Since i am new to IDL, your help is appreciated.
>
> Is it that the array size for kernel should be less than the image
> size?
>
> Also, I have serious troubles in redirecting the results to HDF format.
>
> Unfortunately, I am able to create a HDF file but to see only a noisy
> data without any image.

Humm, well, I don't see any image either. Perhaps you
could give us a little more detail about what you
are trying to do here.

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: Low pass filter - Problem with kernel
Posted by James Kuyper on Tue, 03 Oct 2006 14:41:57 GMT
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Vidhya wrote:

> Dear All,
>
> Stuck with the error message:
>
> "% CONVOL: Incompatible dimensions for Array and Kernel.
> % Execution halted at: $MAIN$"
>
> while trying to apply a low pass filter to one of my image data.
>
> The array dimensions for kernel is
> IDL> help, kernel
> KERNEL FLOAT = Array[3, 3]
> IDL> help, column_log
> COLUMN_LOG FLOAT = Array[1, 374]

It would help a great deal if you showed us a simplified version of the code that actually failed. As it is, we can can't be sure what you're doing. For instance, what is column_log? If it's the array that you're trying to convolve with that kernel, you've got a serious problem: column_log has a length of only 1 in the first dimension, which is insufficient to make use of a kernel whose first dimension has a length of 3. If you're talking about an image, the data you're convolving shouldn't be a 1x374 array. What is the shape of the image that you're trying to convolve?

Subject: Re: Low pass filter - Problem with kernel
Posted by Vidhya on Wed, 04 Oct 2006 09:44:57 GMT
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Dear All,
Sorry for not giving a detailed description of the program. The following is the program, which tries to apply a low pass filter to an image of size, 766*374 with 62 bands.

```
PRO vnoise
filename='image.hdf'
hdfid=hdf_sd_start(filename, /READ)

varid=hdf_sd_select(hdfid, 0)
hdf_sd_getdata, varid, image


varid=hdf_sd_select(hdfid, 1)
hdf_sd_getdata, varid, mask

hdf_sd_end_access, varid
```

```
hdf_sd_end, hdfid


column_average=rebin(image, 1, 374, 62)


;applying the log to the average radiance of the image
column_log = alog10(column_average)

ksize = [3,3]


kernel = replicate((1.0/(ksize[0]*ksize[1])), ksize[0], ksize[1])


filtered_image = convol(float(column_log), kernel, /CENTER,
/EDGE_TRUNCATE)

;filtered_image = convol(float(column_log), kernel, /CENTER,
/EDGE_TRUNCATE)
;% CONVOL: Incompatible dimensions for Array and Kernel.
;% Execution halted at: $MAIN$
```

And this is where I get the error message about the dimensions.

What I am trying to do is to rebin the image column-wise, apply a log to the average, and then apply the kernel to the image.

Let me know where I go wrong!

Thank you
Vidhya
