Subject: Re: Dealing with Large data arrays, reducing memory and ASSOC
Posted by Kenneth Bowman on Thu, 14 Jun 2007 13:08:44 GMT
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In article <1181824433.145388.26020@d30g2000prg.googlegroups.com>,
Ambrosia_Everlovely <ambrosia_everlovely@hotmail.com> wrote:

> Hi,
> I have a fairly large datacube, DC(x,y,t)=DC(512,512,2048) and I want
> to perform an FFT in the t direction. Now I can do,
> FFTDC=fft(DC,-1,dim=3) which takes an excessive amount of memory (19 G
> + 50 G virtual) and slows the whole system down.
> Since this must be a fairly common practice amongst astronomers, can
> anyone provide - or link to - a small IDL algorithm which will allow
> me to use ASSOC or reduce the memory in some way? I have also tried
> TEMPORARY, but this doesn't seem to help at all.
>
> Thankyou!!!!

I would just do it in slices

dct = COMPLEXARR(512,512,2048)
FOR j = 0, 511 do dct[*,j,*] = FFT(REFORM(dc[*,j,*]), -1, DIM = 2)

This does access memory in nearly the worst possible way. If you are going
to be doing this a lot, you might want to consider rearranging the
data so that t is the first dimension

dct = COMPLEXARR(2048,512,512)
FOR k = 0, 255 D0 xt[0,0,k] = FFT(REFORM(x[*,*,k]), -1, DIM = 1)

Ken Bowman