Subject: Re: Programming style
Posted by steinhh on Sat, 16 May 1998 07:00:00 GMT
View Forum Message <> Reply to Message

J.D. Smith wrote:

> z=findgen(nx*ny*nz)
> x2=((z mod (nx*ny)) mod nx-nx/2)^2
> y2=((z mod (nx*ny))/nx-ny/2)^2
> z2=((temporary(z)/(nx*ny)) - nz/2)^2
> array=bytarr(nx,ny,nz)
> array[where(z2+x2/e11^2+y2/e21^2 le c1^2 AND z2+x2/e12^2+y2/e22^2 ge
> c2^2)]=1b
>
> Note the two ellipses are centered on the midpoint of the array and are
> concentric. This can be modified by changing the subtracted value in
> each of x2,y2,z2. Definitely faster than loops. Elegance is in the eye
> of the beholder, though.

My $0.02 modification (speed/elegance?)

```
x2 = rebin((findgen(nx,1,1)-nx/2)^2,nx,ny,nz)
y2 = rebin((findgen(1,ny,1)-ny/2)^2,nx,ny,nz)
z2 = rebin((findgen(1,1,nz)-nz/2)^2,nx,ny,nz)
array = z2 + x2/e11^2 + y2/e21^2  LE  c1^2  AND $
      z2 + x2/e12^2 + y2/e22^2  GE  c2^2
```

In case nx/ny/nz are large, this should save considerable time..

Since we're not using such huge indices any longer, we could
also substitute FINDGEN with INDGEN (if you don't need fractional
pixel positioning of the zero point (center) of the x2,y2,z2
arrays).

Stein Vidar