Subject: Expensive loops... can they be avoided? Posted by Rainer on Tue, 26 Feb 2008 09:41:45 GMT

View Forum Message <> Reply to Message

Hi!

I need to render 2D slices cut from 3D spherical grid data. So far, I am using a brute force method which, using two FOR loops, is unfortunately rather slow (although working just fine). The problem and my approach boil down to this:

```
-- A[i,j] is the input array, with r[i] and chi[j] being curvilinear coordinates (not necessarily uniformly spaced)
-- B[k,l] is the output array with x[l] and y[l] being uniformly spaced Cartesian coordinates (to be plotted with TVSCALE)
```

```
for k=0,nx-1 do begin

for l=0,ny-1 do begin

curr = sqrt(x[k]^2+y[l]^2)
curchi = atan(x[k],y[l])

if "curchi or curr are out of bounds" then begin
    B[k,l] = environment_value
    continue
    endif

foo = min( r - curr ,nearestr,/absolute)
    foo = min( chi - curchi ,nearestchi,/absolute)

B[k,l] = A[nearestr,nearestchi]

endfor
endfor
```

The calculation of "curr" and "curchi" can easily be done outside the loops of course. But what can I do with the rest?

Thanks, Rainer