
Subject: Expensive loops... can they be avoided?

Posted by [Rainer](#) on Tue, 26 Feb 2008 09:41:45 GMT

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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
