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Subject: Strange array subscripting error

Posted by [robintw](#) on Tue, 07 Jul 2009 09:27:53 GMT

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Hi,

I'm getting the error "% Out of range subscript encountered: VALUES.", but I can't work out why. I have three arrays (azimuths, zeniths and values) each of which is set to a size of  $360 * 90$  (which is 32400). I then have a loop which populates these arrays with values, but when the loop gets to 32398 it stops and gives the error above.

I really can't understand what's going on here. I've made sure that the variable I'm using to keep the array\_index in is a long, in case above 32398 it was going over a limit in a standard integer, but that didn't help. The only way I've found to get round it is to manually add three to my array declaration (ie. change it to `fltarr((360*90) + 3)`). That is obviously a very ugly hack, and ends up with me having some blank unused array values at the end.

Does anybody have any ideas why this is happening and what I can do about it? I've attached the code below:

```
PRO BRUNGER_HOOPER_MODEL, a0, a1, a2, a3, azimuths=azimuths,
zeniths=zeniths, values=values, s_theta, s_phi
  sun_theta = s_theta*!DTOR
  sun_phi = s_phi*!DTOR
```

```
  ; Initialise arrays
  array_size = (360*90) + 3 ; BUG ALERT! When set to 360*90 (32400) it
seems to overrun at 32398, this is an ugly fix
```

```
  azimuths = intarr(array_size)
  zeniths = intarr(array_size)
  values = fltarr(array_size)
```

```
  FOR phi=0, 360-1 DO BEGIN
    FOR theta=0, 90-1 DO BEGIN
      ; Convert the current phi and theta to radians
      view_phi = phi*!DTOR
      view_theta = theta*!DTOR
```

```
      value = CALCULATE_SKY_VALUE(a0, a1, a2, a3, view_theta,
view_phi, sun_theta, sun_phi)
```

```
      array_index = long((90*phi) + theta)
```

```
      ; Put the value into the array
```

```
values[array_index] = value
azimuths[array_index] = phi
zeniths[array_index] = theta

ENDFOR
ENDFOR

; Normalise the values
values = values / MAX(values)
END
```

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