Subject: IDL hangs with Bessel Function
Posted by price on Thu, 02 Jun 1994 13:22:51 GMT
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I have discovered a very odd behavior of IDL/Macintosh when using a Bessel J function. I would appreciate any insight into what is going on.

I am running on a Mac Quadra 660av with system 7.1 and have allocated 15Mbyte of memory to idl. I am trying to calculate a diffraction pattern using the beselj routine from idl.

I define a 64x64 array of numbers using the dist routine

```
r=shift(dist(64),32,32)
```

If I now calculate the corresponding bessel function in the following way the calculation takes about 5 seconds.

```
inten=beselj(r,1)       5 seconds
```

If I add a coefficient to r the calculation also takes 5 seconds

```
inten=beselj(r*1.35956,1)   5 seconds
```

If I define a variable ar=1.35956 and calculate it still takes 5 seconds

```
inten=beselj(r*ar,1)        5 seconds
```

Now, if I define a variable ar=!pi*.15*95./64./.5145 which is equal to 1.35956 and proceed as above the program starts calculating and never stops (I have waited up to 10 minutes without any results). I then have to crash the routine to get back to the finder

```
inten=beselj(r*ar,1)    where ar=!pi*.15*95./64./.5145
```

I have tried defining r*ar outside the bessel function but it doesn't do any good. I have tried defining ar by using 3.14159 instead of !pi and this doesn't do any good. Have I discoverd some strange bug in the language or am I missing something?

I am not new to IDL. I have been using in on a VAX for the past 8 years without problems of this sort. I just got the Mac version a few months ago and this problem has appeared.

Any suggestions or solutions would be greatly appreciated.

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