
Subject: How to extract a scalar from a vector?
Posted by [Balt](#) on Tue, 04 Jan 2011 23:13:46 GMT
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Hi,

I have an array with doubles (calibration factors for some data):

```
CAL_DATA      DOUBLE   = Array[24, 4]
```

I have a channel and unit number which is used to extract the proper gain and offset from the cal_data array. So to obtain gain a and offset b from this array, I extract it as follows:

For channel=1, unit=3:

```
sel_cal_data = WHERE(cal_data[*],0] EQ 3 AND cal_data[*],1] EQ 1, count)
```

Which works fine, as this illustrates:

```
IDL> PRINT, "A:", cal_data[sel_cal_data,2], "B:",  
cal_data[sel_cal_data,3]  
A:      96.859805  
B:  
      -304.81185  
IDL>
```

These are the values I want (verified manually).

Now for the problem: I now need to convert the voltages in the array u3_C165 into temperatures, again, simple:

```
u3_T165 = cal_data[sel_cal_data,2] * u3_C165 - cal_data[sel_cal_data,  
3]
```

So, u3_C165 contains 1570 measurements:

```
IDL> help,u3_C165  
U3_C165      DOUBLE   = Array[1570]
```

Now u3_T165 should contain 1570 datapoints of temperature. Except, it doesn't! For some reason, this is what's in there now:

```
IDL> help,u3_T165  
U3_T165      DOUBLE   = Array[1]  
IDL>
```

I think the problem is that IDL thinks that cal_data[sel_cal_data,2] and cal_data[sel_cal_data,3] are vectors of dimension 1, when they

should be scalars.

See this:

```
IDL> help,cal_data[sel_cal_data,  
3]
```

```
<Expression>  DOUBLE  = Array[1]
```

How on earth can I make cal_data[sel_cal_data,2] and cal_data[sel_cal_data,3] into a scalar? I tried this:

```
IDL> x = DOUBLE(cal_data[sel_cal_data,3])
```

```
IDL> help,x
```

```
X          DOUBLE  = Array[1]
```

obviously to no avail.

Any help greatly appreciated!

Thanks

- Balt
