
Subject: Re: Drawing vector fields with New Graphics
Posted by [Phillip Bitzer](#) on Tue, 02 Jul 2013 14:31:46 GMT
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This doesn't help with your immediate problem, but part of the reason v1 appears smaller is your axis scale. See what I mean with these two commands:

```
IDL> v1.yrange=[-1, 4]  
IDL> v1.xrange=[-1, 4]
```

This is because of what (relative to the vector) the x,y locations refer to. The default is the middle of the arrow. (You could also try v1.data_location=0 / v2.data_location=0 to "see" the same thing.)

This note in the help scares me:

Note: The units for the U and V components are arbitrary, and are not related to the units of the X and Y coordinates. The VECTOR function will compute a default length scale and head size based upon the overall number of vectors and the average magnitude of the vectors. The LENGTH_SCALE and HEAD_SCALE properties may be used to change the default size.

Intuitively (at least to me), this should not be the behavior. Uv, Ux should mean *something* about the magnitude.

From my reading of this note, it looks like you could find the average magnitude of the vectors in v1, which sets the default scale, and then scale the others (v2, etc) accordingly relative to this value.
