Subject: Re: VELOVECT problem
Posted by hcp on Wed, 16 Aug 1995 07:00:00 GMT
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In article <40nmmq$aml@hugin.aau.dk>, rosentha@aauobs.obs.aau.dk (Colin Rosenthal) writes:
|> Is there a problem with VELOVECT in IDL 4.0? When I try to call
|> it with /NOERASE I get a "Keyword NOERASE not allowed in PLOTS"
|> error.
|>

Yes there is. RSI clearly know not a lot about their customers or
they would not make it so hard to put (e.g.) wind vector arrows
on top of a filled contour plot of wind strength. Fortunately velovect is
written in IDL so you can copy it from /usr/local/rsi/idl/lib/ or
wherever your system keeps it and hack your own copy. I'd change its name to
something else so you know which version you are using.

The problem is that RSI have used the _EXTRA mechanism to ensure
that any odd keywords you feed to velovect (e.g. /noerase) are passed
on to plot. They pass them all on to plots and oplot too, where they
can cause errors.

You therefore need to change the following.

The first lines of the program (now in file velo.pro) become

```
PRO VELO,U,V,X,Y, Missing = Missing, Length = length, Dots = dots,  $
      Color=color, noerase=noerase, xrange=xrange,yrange=yrange, $
      xstyle=xstyle,ystyle=ystyle, _EXTRA = extra
;
```

The plot statements

```
      if n_elements(position) eq 0 then begin
        plot,[x_b0,x_b1],[y_b1,y_b0],/nodata,/xst,/yst, $
          color=color, _EXTRA = extra
      endif else begin
        plot,[x_b0,x_b1],[y_b1,y_b0],/nodata,/xst,/yst, $
          color=color, _EXTRA = extra
      endelse
```

must be changed to

```
      if n_elements(position) eq 0 then begin
        plot,[x_b0,x_b1],[y_b1,y_b0],/nodata, $
          color=color, _EXTRA = extra,xstyle=xstyle,$
          noerase=noerase,xrange=xrange,yrange=yrange,ystyle=ystyle
      endif else begin
        plot,[x_b0,x_b1],[y_b1,y_b0],/nodata, $
```

```
      color=color, _EXTRA = extra, noerase=noerase,$
      xrange=xrange,yrange=yrange,ystyle=ystyle,xstyle=xstyle
    endelse
```

Doubtless there are other incompatible keywords to add to this list.

Why that if-else business is there I don't know, both plot statements look the same to me.

You could test the code with this short test program

```
; Test Program for velocity vectors on top of countour plot
n=29
x=findgen(n)*2*!Pi/n
y=x
vx=fltarr(n,n)
vy=vx
z=vx
for j=0,n-1 do begin
  for i=0,n-1 do begin
    vx(i,j)=cos(x(i))*sin(y(j))
    vy(i,j)=sin(x(i))*sin(y(j))*cos(3*y(j)*x(i))
    z=sqrt(vx*vx+vy*vy)
  endfor
endfor


ra=[-0.2,6.2]
 contour,z,x,y,lev=(findgen(20)/20),xrange=ra,yrange=ra,/fil, /xst,/yst
velo,vx,vy,x,y,xrange=ra,yrange=ra,/noerase,/xst,/yst
end
; End of test program
```

Hope this works.
Hugh

P.S. RSI: if you are reading this, you might want to correct these errors in the next upgrade. My consulting fee is a mere $800, all hard currency accepted.