Subject: Weird behaviour in SURFACE procedure
Posted by Paul Van Delst[1] on Tue, 17 Jun 2008 14:05:59 GMT
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Hello,

I put together the following test case:

```
pro testit, lego=lego
  t = [273.0,279.0,285.0,291.0,297.0,303.0]
  s = [20.0,22.0,24.0,26.0,28.0,30.0,32.0,34.0,36.0,38.0,40.0]
  e = [[79.3482,77.6361,75.9746,74.5451,73.0994,71.4641],$
       [79.1002,77.3120,75.5867,74.0939,72.6238,71.0040],$
       [78.8522,76.9879,75.1988,73.6427,72.1483,70.5440],$
       [78.6042,76.6638,74.8109,73.1916,71.6728,70.0839],$
       [78.3561,76.3397,74.4230,72.7404,71.1973,69.6238],$
       [78.1081,76.0156,74.0351,72.2892,70.7218,69.1638],$
       [77.8601,75.6915,73.6473,71.8380,70.2463,68.7037],$
       [77.6121,75.3674,73.2594,71.3869,69.7708,68.2436],$
       [77.3641,75.0433,72.8715,70.9357,69.2953,67.7836],$
       [77.1161,74.7192,72.4836,70.4845,68.8198,67.3235],$
       [76.8680,74.3951,72.0957,70.0333,68.3443,66.8634]]
  window,0
  surface, e, t, s,$
          xtitle='Temperature (K)',$
          ytitle='Salinity (ppt)',$
          ztitle='Static permittivity',$
          charsize=3.0, lego=lego
  window,1
  contour, e, t, s,$
          xtitle='Temperature (K)',$
          ytitle='Salinity (ppt)',$
          title='Static permittivity', $
          levels=[66,68,70,72,74,76,78,80], $
          c_labels=[1,1,1,1,1,1,1,1], $
          c_charsize=1.0
  isurface, e, t, s,$
           xtitle='Temperature (K)',$
           ytitle='Salinity (ppt)',$
           ztitle='Static permittivity'
end
```

If I simply run the above, the result of the SURFACE procedure does not match either the CONTOUR or ISURFACE output. It's as though there has been a rotation of 90deg clockwise in the surface, but not the axes. If you count the number of datapoints in the x- (or temperature) direction of the surface plot, I see 11 values and it should be 6.

However, if I use the /LEGO keyword, then the SURFACE output seems correct compared to the other two plots.

Note that the max value of the data should occur on the T=273K, S=20.0ppt corner, and the min value in the T=303K, S=40.0ppt corner.

Can someone else run the above test code and verify?

I'm running:

IDL> print, !version
{ x86 linux unix linux 7.0 Oct 25 2007 32 64}

on RHE 4.0

Thanks for any feedback.

cheers,

paulv
