Subject: yband help
Posted by Tim Bovaird on Mon, 18 Jul 2011 23:30:16 GMT
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I'm trying to plot the 68% and 95% standard deviation bands for a fit I have using poly_fit. In the example below my points form a polynomial on a log-log plot. x, y and y_err are converted to log before the fit is calculated then converted back to linear because the plot is called with the /xlog and /ylog keywords.

```
xfitlog=findgen(80)/8
logfit=poly_fit(x, y, 3, MEASURE_ERRORS=y_err, YBAND=yband)
yfitlog=logfit[0]+logfit[1]*xfitlog
+logfit[2]*xfitlog^2+logfit[3]*xfitlog^3
yfitlog_errHi=yfitlog+yband
yfitlog_errLo=yfitlog-yband

plot, 10^x, 10^y, /xlog, /ylog
oplot, 10^xfitlog, 10^yfitlog, color=cgcolor('red4'), thick=3
oplot, 10^xfitlog, 10^yfitlog_errHi
oplot, 10^xfitlog, 10^yfitlog_errLo
```

From the definitions in poly_fit, the fit has a 1 standard deviation error (68%) of + or - yband. However in my above example, the + and - errors lie right on top of the fit. Is there something I have done wrong? Is there a way to also get the 95% errors?