

ftfitter_sample_code.pro

```
;set up pre-defined lines and/or continuum
baseline={ftfitter_line_parms}
baseline.lineshape='Polynomial'
baseline.amplitude.value=10
baseline.centre.value=0.01
baseline.width.value=-0.001
baseline.trans_rate.value=0.00001

;initialize the object
obj=obj_new('ftfitter', line_parms=baseline ,max_iter=100, xtol=1d4, lo_freq=11,
hi_freq=12)

;optionally set parameters directly
obj.lo_freq=11
obj.hi_freq=12
obj.linewidth=0.01
obj.threshold=4e4

;load in spectrum from .spc file
obj->load_spc,programrootdir()+ 'diff_d_850.spc'

;load in FITS file
;obj->load_spc,'filename.fits'

;optionally set spectrum directly
;obj.frequency=wn
;obj.spectrum=spc

;automatically identify lines and add them to the line list
result=obj->find_lines(/add)

;optionally load line parameters from an XML file
;result=obj->load_lines(programrootdir()+ 'test_lines.xml')

;line parameter data can be read directly from the object
;foreach line, obj.line_parms do print, line.lineshape, line.centre.value,
line.amplitude.value, line.width.value, line.trans_rate.value

;fit the lines using analytic lineshape functions
obj->fit_analytic,/apodized

;write the output to an XML file
obj->write_lines_xml,programrootdir()+ 'test_fit.xml'

;get the computed model spectrum
fit=obj.model

;get the computed residual
res=obj.residual
```