Subject: Re: continuum normalized spectra
Posted by abc on Sun, 03 Feb 2013 14:33:30 GMT
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On Sunday, February 3, 2013 3:22:54 PM UTC+1, Mats Löfdahl wrote:
> Den söndagen den 3:e februari 2013 kl. 09:09:20 UTC+1 skrev idlhelp:
>
>> On Saturday, February 2, 2013 7:42:39 PM UTC+1, David Fanning wrote:
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>>> idlhelp writes:
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>>>>   I want to write a program to fit a linear local continuum of absorption line, and plot the spectrum with continuum drawn and the spectrum normalized by the continuum. And than I want to Fit a local continuum using data in the wavelength ranges 1800-1820 and 2020-2040 angstroms.
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>>>> Does anyone know that how can I do that
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>>>  Yes, probably. But, not without a hell of a lot more information. :-)
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>>> Cheers,
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>>> David
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>
>>>  David Fanning, Ph.D.
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>
>>>  Fanning Software Consulting, Inc.
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>
>>>  Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
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>>>  Sepore ma de ni thue. ("Perhaps thou speakest truth.")
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>> Hi David,
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>
>>          ok so here is the information. This is how I am doing :-)
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>
>> ;   filename - the filename of the input spectrum
>
>>
>
>> ;   column - the number of columns in the file
>
```

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>>
>
>> ;    row - the number of rows in the file
>
>>
>
>> ;    boxsize - the size of the boxcar for the smoothing function
>
>>
>
>> ;    dofit - the user keyword
>
>>
>
>> ;    dofityes - the variable containing the input parameter
>
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>
>> data = fltarr(column, row)
>
>>
>
>>
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>>
>
>> ; open the file as read only
>
>>
>
>> openr,lun,filename,/get_lun
>
>>
>
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>
```

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>>
>
>>  ; read the data from the file into the array
>
>>
>
>>  readf,lun,data
>
>>
>
>>
>
>>
>
>>  ; close the file
>
>>
>
>>  close,/all
>
>>
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>>
>
>>  wave=reform(data(0,*))
>
>>
>
>>  flux=reform(data(1,*))
>
>>
>
>>
>
>>
>
>>
>
>>  ; This creates a new array containing the results generate
>
```

```
>>
>
>> ; by the smooth function.
>
>>
>
>> smoothed_flux = smooth(flux,boxsize)
>
>>
>
>>
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>>
>
>> ; check to see if the user would like to fit the continuum
>
>>
>
>> if keyword_set(dofityes) then begin  ; this check the dofit keyword
>
>>
>
>>
>
>>
>
>>   ; fit velocity and smoothed_flux, using a 1st order polynomial.
>
>>
>
>>   result = poly_fit(wave,smoothed_flux,1)
>
>>
>
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>>
>
>>   ; generate the continuum with the results from the fit
>
>>
>
>>   continuum = result(0) + result(1)*wave
>
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>
>> end
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>> But I am not sure that I am doing the continuum normalization to unity in a right way. Because when I make plots the contunum level is higher than the unity.

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>
```

> As far as I can see, you don't do any normalization at all. You calculate the fit, but you never operate on the original (or smoothed) spectrum with that fit. I guess you need to divide the spectrum with the fit.

Ahh I forgot, I am dividing the spectrum by the continuum like that
but still the continuum is far from unity

```
; for continuum normalization
smoothed_flux = smoothed_flux/continuum
```