Subject: interpolation of two different model
Posted by abc on Mon, 07 Jan 2013 20:49:32 GMT
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I have the following 2 data file (2900-4.0-0.5.txt, 2900-4.0-0.0.txt) for example which contain wavelength and flux. The number of data in the both the files are not same.

(Where 2900 is Temperature, 4.0 is gravity and -0.5 and -0.0 is the metallicity)

2900-4.0-0.5		2900-4.0-0.0	
wave	flux	wave	flux
1	0.3	1.0	0.5
2	0.4	1.4	0.1
3	0.1	3.1	0.4
4	0.5	4.0	0.3
5	0.4	5.1	0.2
6	0.6		

I need to interpolate these two data file i.e between -0.5 and -0.0 at a step of 0.1. I don't know how i can interpolate these two different files in IDL. Any help will be appreciated.

thanks in advance

Subject: Re: interpolation of two different model
Posted by wlandsman on Mon, 07 Jan 2013 21:49:38 GMT
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First, I assume that you giving fake data, and that your fluxes are really more precise than only 1 significant digit.

The data sets have the same temperature and gravity, so you only need to interpolate in metallicity. But first you should interpolate the two spectra onto a common wavelength scale. Here's is how I would linearly interpolate in wavelength and metallicity using procedures from the IDL Astronomy library. http://idlastro.gsfc.nasa.gov/homepage.html

```
IDL> readcol,'2900-4.0-0.5.txt',w1,f1    ;read into wavelength & flux vectors
IDL> readcol,'2900-4.0-0.0.txt',w2,f2
IDL> linterp,w1,f1,w2,f1_w2       ;Use w2 as a  common wavelength scale
IDL> frac = (0.5+m)/0.5           ;Fractional distance between 0.0 and -0.5
IDL> finterp = f1_w2*frac + f2*(1-frac)    ;interpolated function
```

where m is the metallicity between 0 and -0.5

--Wayne

On Monday, January 7, 2013 3:49:32 PM UTC-5, idlhelp wrote:
> I have the following 2 data file (2900-4.0-0.5.txt, 2900-4.0-0.0.txt) for example which contain wavelength and flux. The number of data in the both the files are not same.

>
>
>
> (Where 2900 is Temperature, 4.0 is gravity and -0.5 and -0.0 is the metallicity)
>
> 2900-4.0-0.5 2900-4.0-0.0
>
> wave flux wave flux
>
> 1 0.3 1.0 0.5
>
> 2 0.4 1.4 0.1
>
> 3 0.1 3.1 0.4
>
> 4 0.5 4.0 0.3
>
> 5 0.4 5.1 0.2
>
> 6 0.6
>
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Subject: Re: interpolation of two different model
Posted by abc on Mon, 07 Jan 2013 22:50:38 GMT
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On Monday, January 7, 2013 10:49:38 PM UTC+1, wlandsman wrote:
> First, I assume that you giving fake data, and that your fluxes are really more precise than only 1 significant digit.
>
>
>
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>
>
>
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>
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>
> --Wayne
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>> wave flux wave flux
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>>
>
>> 1 0.3 1.0 0.5
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>> 2 0.4 1.4 0.1

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>> 3 0.1 3.1 0.4
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>> 4 0.5 4.0 0.3
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Thanks Wayne,

Yes, the data is fake as the files are so big that I can't upload them. Your method work fine. But just a small confusion. What if I have grid of model then how can I proceed for example

2900-4.0-0.5.txt
2900-4.0-0.0.txt
3000-4.0-0.0.txt
3000-4.0-0.0.txt
3100-4.0-0.0.txt
3100-4.0-0.0.txt
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