Subject: Re: convolution of vsini
Posted by abc on Wed, 23 Jan 2013 20:20:52 GMT
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On Wednesday, January 23, 2013 5:49:33 PM UTC+1, wlandsman wrote:
> The IDL astronomy library has the function LSF_ROTATE
>
>
>
> http://idlastro.gsfc.nasa.gov/ftp/pro/astro/lsf_rotate.pro
>
>
>
> to return a convolution kernel for rotating a stellar spectrum under typical assumptions (e.g. constant limb darkening). You can use one of the many interpolation routines (e.g. interpol()) to do the interpolation.
>
>
>
> On Wednesday, January 23, 2013 7:10:12 AM UTC-5, idlhelp wrote:
>
>> Does anyone know the IDL routine with the help of which I can first do the interpolation onto a wavelength grid and then get the kernel for vsini and then finally interpolate back onto my original wavelength grid.
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>
>> thanks

thanks,
I am using that library. I have checked the program with different vsini values. The only things which I didn't understand is the there is a huge offset in the flux at vsini=0.0 and vsin=10 km/sec. I didn't figure it out where I am making mistake. And this is how I am performing the calculation

```
dlambda = vsini/c
npoints = ALOG(lammax/lammin)/dlambda+1
interlam  = lammin * EXP(dlambda * (DINDGEN(npoints)-1))
interflux = INTERPOL( flux, lam, interlam )

and then get the kernel as
lsf = lsf_rotate(delta_V, vsini)
fold  = CONVOL( interflux, lsf, /CENTER, /EDGE_TRUNCATE)
```

flux_new=INTERPOL(fold,interlam,wave)