Subject: Re: gaussian convolution
Posted by news.verizon.net on Sat, 24 Mar 2007 16:20:51 GMT
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> My first guess would be to use a gaussian filter in order to reduce
> the resolution. The spectrum is (intensity vs. wavelength),so I
> think 1D gaussian filter would be OK. Is there anyone with experience
> on it ?
>
There are several IDL procedures on the Web to convolve a spectrum
with a Gaussian; you might try gaussfold.pro at

http://astro.uni-tuebingen.de/software/idl/aitlib/misc/gauss fold.pro

which requires the procedure psf_gaussian.pro to create the kernel

http://idlastro.gsfc.nasa.gov/ftp/pro/image/psf_gaussian.pro

If your spectrum has 1 Angstrom resolution, and you want to degrade it
to 3 Angstrom resolution, you should convolve it with a Gaussian with
a FWHM of sqrt(3^2-1^2) = 2.82 Angstrom,e.g.

fsmooth = gaussfold(w,f,2.82)

(The wavelength vector and FWHM should have the same units.) --Wayne