Subject: Smoothing Spline -- any existing efficient routines?
Posted by Neil B. on Thu, 12 Aug 2010 13:25:42 GMT
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Hi,

I am trying to find the continuum of various stellar spectra. The noise of these spectra are fairly non-intrusive and there aren't many outliers (spikes due to calibration errors etc.).

The arrays I am working with contain about 40000+ elements.

I want to essentially turn the spectra into some linear function, so I can remove any curvature in the observed data.

I know of the procedure Spline_smooth (http://astro.uni-tuebingen.de/software/idl/astrolib/math/spline_smooth.html). However, this function as the restriction tag in its header suggests, is extremely slow.... It takes about 40 minutes to process a 1000 element sub-array. The speed issues in this program are due to the fact that it does not use Cholesky Decomposition. Further more, when I try the routine on the 40000 element array I receive an error message that informs me that there are too many elements in the array...

Does anyone know of an efficient version of this routine.

Or is there a better way for determining the continuum of a spectrum?

Thanks very much in advance.