Subject: fast spectral resampling
Posted by lbusett@yahoo.it on Fri, 11 Jun 2010 10:59:23 GMT
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Hi all,

I need to resample of a huge number (hundreds of thousands) of spectra produced by a radiative transfer model (2100 bands, with a 1 nm spectral interval) to the spectral characteristics of a given sensor, expressed as the center wavelength and gaussian FWHM of the different bands. The number of output bands can be as high as a few thousands.

I'm currently building a matrix (hcrf_in) containing some thousands of the input spectra (one spectra per column) and performing the resampling with the ENVI_RESAMPLE_SPECTRA routine, which gives in output a new matrix (hcrf_out) containing the resampled data. The command is like the following.

ENVI_RESAMPLE_SPECTRA, in_wl, hcrf_in, out_wl, hcrf_out, OUT_DT=float , OUT_FWHM=out_fwhm , interleave = 2

The routine works well, but it is really slow, and I don't have access to the code in order to try to optimize the computation.

Does anybody know if there are any other routines or methods that can be implemented in order to speed-up the computation ? Keep in mind that that spectral sampling and FWHM of the different output bands can be variable.

Thanks in advance for the help,

Lorenzo