Subject: IDL/ENVI SPOT-5 Level 1a (DIMAP format) - simple(?) gain problem
Posted by D2 on Sun, 22 Aug 2010 16:31:05 GMT
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Hi all,

It's a Sunday afternoon and I'm pulling my hair out trying to do something I thought was going to be relatively easy, but instead has turned into a bit of a nightmare for a beginner at IDL/ENVI.

I've got a geotiff of SPOT-5 level 1a imagery that I bring in by opening up the supplied *.DIM file so that I get most of the important metadata (e.g., band wavelengths, standard gains and offsets, etc).

So, the question is this: how can I apply separate gains and offsets to each of my 4-bands, and then write those new results together into a separate file, or even the original file? In other words, the original file + 4 new "bands" added to it, or new file (with all projection metadata, etc. intact) with 4 new band).

The original file is in 8bit "digital number" (aren't they all "digital"?? heh.) and I'm calculating 32-bit floating point values, so it's your standard "radiometric calibration" process.

I've tried using the "apply gain and offsets" module, but that multiples when I want to divide values. I've also tried using band math, but I seem to be only able to apply one equation to one band at a time, and then it only outputs the results to a single file. I'd like to apply 4 separate equations to their respective bands, and then output these new results to a single file, or just write them into the original file.

There's a user submitted code on the ENVI user forum that basically does what I need to do (calibrate_spot.sav), but I'd like to get under the hood to tweak parameters and begin to teach myself to understand IDL. What I'm looking to do is apply my own custom gains and offsets instead of using those supplied in the metadata file.

I do want to learn, and I'm eagerly awaiting my Morton Canty book to arrive, but I'd like to make some headway on this now.

Any pointers (and sample code) would be immensely appreciated!

Cheers,

Dennis