Co-registration

Before any filtering or analysis takes place images must be co-registered. The temporal analysis of ScanSAR images requires that all images are co-registered together using one of the images as a reference.   This can be performed using Envi by choosing a number of reference points but using Gamma it can be done by a least-squared method much more quickly. The following scripts call Gamma routines to co-register pairs of images.   The scripts assume that the files have a .mli extension with polarizations distinguished as hh.mli and hv.mli. They ask for a "file name root" (fnr). Thus they look for files called fnr.hh.mli and fnr.hv.mli and the name to be entered is "fnr". This name was probably given to it when using mli_script or mli_HHonly_script. I used a path-frame cycle format for fnr e.g.: P443_F7170_C19.

For FBD files

Import cor1_script, cor2_script, cor3_script to the folder containing the .hh.mli & .hv.mli files to be co-registered.

Initiate using: sh cor1_script.   (This creates a diff_par file from the .hh files)

Enter the reference file name root (e.g. P443_F7180_C12)
Enter the comparison file name root (e.g. P443_F7180_C22)

Click through to use the default options

Start the next procedure: sh cor2_script   (this creates a file of coefficients)
Enter file name roots as before
Try window size 128 when asked.

Start the next procedure: sh cor3_script   (interpolation)
Just enter the comparison name root this time

The result is co-registered comparison files (.hh and .hv) labelled with the name root appended by _R. In this case they would be P443_F7180_C22.hh_R.mli and P443_F7180_C22.hv_R.mli

For SCanSAR files

Follow the same procedure to register each file wit the one chosen as a reference, but replace cor3_script with cor3hh_script – this just needs and produces a file with HH polarisation.