Recovery and Calibration of Non-Prime Data in the LWS

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The LWS Fabry-Pérot high resolution spectrometer was used during the ISO mission to make two types of observations: narrow scans in wavelengths around a known line (L04) and wide spectral surveys where both the grating and the Fabry-Pérot were scanned to cover a large wavelength range (L03). In both cases one detector was selected as the "prime" detector as its band pass filter encompassed the wavelength range of interest. The Fabry-Pérot order and grating position were set accordingly. However, all ten LWS detectors received radiation but at other wavelengths and not necessarily at optimal grating and Fabry-Pérot settings.

Calibration files for Fabry-Pérot data have been extended and improved and routines written to allow identification and calibration of useful "non-prime" data. This is carried out in a modified version of the standard LIA routine, *fp_proc*.

Accurate calibration of "non-prime" data gives new information that can be used to increase signal to noise in "prime" data, fill in gaps in wavelength coverage or allow the reality of unidentified features to be checked.