

S84-61
ABS. ONLY
175074
P-1

N 94 - 22522

The ISO SWS on-line system

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The software which is currently being developed for the Short Wavelength Spectrometer (SWS) of the Infrared Space Observatory (ISO) will be described. The spectrometer has a wide range of capabilities in the 2 - 45 μm infrared band. SWS contains two independent gratings, one for the long and one for the short wavelength section of the band. With the gratings a spectral resolution of ~ 1000 to ~ 2500 can be obtained. The instrument also contains two Fabry-Pérot's yielding a resolution between ~ 1000 and ~ 20000 .

Software is currently being developed for the acquisition, calibration and analysis of SWS data. The software is firstly required to run in a pipeline mode without human interaction, to process data as they are received from the telescope. However, both for testing and calibration of the instrument as well as for evaluation of the planned operating procedures the software should also be suitable for interactive use. Thirdly the same software will be used for long term characterisation of the instrument.

The software must work properly within the environment designed by the European Space Agency (ESA) for the spacecraft operations. As a result strict constraints are put on I/O devices, throughput etc.