SWS Signal Capture
– from Flux to Signal –

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In this paper we give a description of the signal extraction from the flux falling onto the SWS detectors. We will describe all known artifacts related to the detectors and the cold and warm read out electronics.

Starting with pre-flight laboratory tests, during the ISO mission and until the present day we are attempting to model known artifacts of the detectors and the electronics. Pre-flight laboratory tests were made to characterise individual components in as much detail as possible. Also tests under controlled circumstances have been made on the integrated system to monitor its behaviour and optimise the instrument settings.

The laboratory tests are at the base of the model describing the integrated electronic system. The many in-flight calibration observations have helped to improve on these models. For some artifacts we have been able to develop algorithms to correct for them. As much as possible these corrections are implemented in the SWS PIPELINE.

In a separate paper by Do Kester the transient behaviour of the SWS detectors is described in much greater detail.