1 Glossary of Terms

channel – data channel from each 2kx2k detector through to the backend of the pipeline

pointing – a telescope slew to position with new guide star acquisition. Note that microstep sequences and dither sequences are done within one pointing.

read – a read is the act of physically reading a detector. This generally means the act of digitising the data, and can be either destructive (*i.e.* followed by a reset) or non–destructive

exposure – an exposure is a sequence of one or more reads, that are used to produce a single output image

integration – an integration is the result of a sequence of one or more exposures. Whereas the exposure is the result of a sequence of reads, the integration is a summation (or similar) of a sequence of exposures

darks – reference exposures of the same duration as the images in an exposure sequence used for correcting detector artefacts

MSB – a Minimum Schedulable Block is a sequence of integrations that makes up a largely self-calibrating and useful scientific observation. The component parts of an MSB are defined below and in turn are constrained by the scientific requirements on flatfielding accuracy, astrometric and photometric calibration and sky removal.

mesostep sequence – a type of MSB being a sequence of exposures designed to completely sample across the face of a detector to monitor residual systematics in the photometry

focus run – a type of MSB with a series of exposures for use in providing an estimate of best focus

microstep sequence – a sequence of 1x1, 2x2 or 3x3 integrations taken with accurate sub–pixel (including small integral) shifts combined by interleaving the pixels

offset – a macrostep to another region of sky within an MSB sequence which may be either another target region or an offset region used for sky estimation

observation – an observation is a sequence of integrations that makes up a usable scientific observation. An observation is the level at which calibration frames (flats, skies, darks *etc.*) are collected

reduced frame – result of reducing an integration

superframe – the result from combining (interleaving) the reduced frames from a microstep sequence. The superframe can be 2kx2k, 4kx4k or 6kx6k depending on microstep mode

loops – a contiguous sequence of multiple exposures in one place to increase integration time

dithers – sequence of integrations offset in "spiral" pattern for use in bad pixel rejection, deep stacking *etc.*

tile – the four pointings and observing sequences necessary such that a combination of them covers a contiguous area of sky involving all four detectors

coadd – image resulting from combining exposures taken sequentially during an integration

stack – image resulting from combining frames from a single detector, including combining superframes

mosaic tile – complete contiguous image combined from using exposures from all detectors confidence map – a normalised inverse variance weight map defining the "confidence" associated with the intensity value in each pixel, this also encodes for hot pixels, bad pixels, dead pixels and so on. The raw confidence maps for each frame output by the Data Acquisition System (DAS) will be derived from regular (frequency TBD) analysis of the calibration flats and darks. All output processed frames (stacked, tiled, mosaiced *etc.*) will also have an associated derived confidence map.