

Physical properties

- ?? Should accommodate 'current' RAL (Waltham) camera package (assuming this is largest system likely to be considered). If relatively minor modifications to the space envelope of the RAL camera are required to avoid major problems with WFS mechanical design and/or space envelope, these may be requested as long as they are largely self-financing (i.e. the cost reduction in WFS design/build should match approximately the cost of any re-packaging required).
- ?? Head cooling can be local or use the integrated TE cooler from EEV.
- ?? Head detachability - see note on re-packaging above.
- ?? Heat removal: - local removal (e.g. as with present RAL arrangements in ELECTRA system) is acceptable. Preference would be for system integrated with GHRIL/NAOMI liquid coolant global heat removal system.

Electronics

- ?? Support EEV39 chip (4-port readout, waveforms etc)
 - ?? Exploit its read noise vs rate capabilities, as proven if available or otherwise as expected by EEV.
 - ?? 5 -7 electrons at maximum specified rate (equivalent to meeting latency spec of 2 x 2 binning but using all subapertures, within 250? sec)
 - ?? < 2 (goal), < 3 (requirement), electrons at (nominally) 100 kpxls/sec (actually, at the value to make best compromise between rate and asymptotic noise floor of chip when determined).
 - ?? Switching mechanism between above must be computer controlled; moderate priority goal is for on-the-fly (loop closed) switch.
 - ?? on-the-fly change of readout waveforms
 - ?? on-the-fly change of integration times

Relationship of these requirements to known planned systems

- ?? There is a premium on maintaining more than one camera option, at least until one is shown to meet all the science-driven requirements or all have failed to do so!.
- ?? If it can be clearly demonstrated that meeting the RAL space/weight envelope drives the WFS cost to a level significantly above the budget or causes it to be unable to meet other key specifications, then it would be appropriate to consider *in parallel* a system which may fall short on the scientific specification.
- ?? It is expected, however, that the RAL camera defines the largest and heaviest requirement on the camera mounting so if a design meets the RAL requirements only a high level check needs to be performed to confirm that the design meets at least one other potentially usable system, such as the Leach controller.