

Subject: Telecon just had with NRL re EIS Date: Wed, 31 Mar 1999 18:18:49 +0100
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Attached my Notes of Telecon just had with NRL re EIS.

Cheers,

Matt-> -----

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Detector Physics : http://www.mssl.ucl.ac.uk/www_detector/homepage.html Solar-B
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EIS Teleconference MSSL/NRL
MWT
GAD, JTM, KD, CK, CMB
Wednesday, March 31, 1999

Optical Design. Iteration with Roger Thomas & Charlie Brown had continued. Main idea was to optimise the OAP design starting from the layout presented by Hiro Hara. Idea of two gratings dispensed with on grounds of cost. Result is: one ruling density (~4300 l/mm), two coatings. Both baseline and NRL1 in first order. Round optics (primary 15 cm diameter). Magnification to place slit 300 mm closer to grating, detector 100 mm further back. No change of overall length. Grating is 80 mm diameter.

Remarks: NRL1 band there for the taking if another camera is brought in. 1st order preferable because groove efficiency is improved. 1 arc sec spatial resolution can be recovered with the magnifications. Design is now f13 instead of f10. Should note that although the aperture is reduced, the additional area contributes poorly to the total PSF anyway so good riddance. Dispersion is (?) changed by 4300/4800.

Outlook. Design will continue to iterate between Charlie and Roger on these lines. Optical layout still evolving, design cannot be released yet. Encourage NRL to talk to Saad especially about immediate mounting of optics.

Risk Management. (Grating) Two approaches: seek alternative vendors for SVLS concept (3 possible candidates - Bock, JY, Zeiss), or go with Toroidal grating as backup.
Questions: where are the detectors, shutters and everything gonna go? Need to operate two detectors at once ?? (Science driver).

Mechanisms: Slit exchange "paddle wheel type" slits on carousel, hard detents. Mirror scan: PZT on flexure for axial motion, motor for lateral drive (less frequent use). Want to have mechanisms that are introduced through the walls of the structure in a similar way to Lasco C1.

Cameras - what's the readout speed, number of ADCs, type of space-qual'd part. When to see a BB camera? Next couple months ?- Ambitious! Need to consider CDS performance especially. Benefits of Actels for physical resources (and quick design). Tradeoffs between placing functions in camera vs ICU. How much mass in the camera - e.g. Lasco - 3 boards!
Link type /rate between Camera, ICU, MDP ?

Off-line housekeeping parameters -(MWT explained the concept of this) CK:

clamshell could have a vacuum monitor. Would need power.

John Seely been in meetings so no more progress on CF sample testing. Stories told about tests done before (for EIS proposal). Rambling/non-expert discussion about ways of sealing CF volumes - nickel plate process (from Chemistry (presum. NRL dept) - a "non-aqueous" process - still wet though??), Kapton/metal sandwich layer.

Programmatics...

Talked about Solar-B (MELCO) design standards documents, as distributed at ISAS. (NRL have these in hand). Discussed systems engineering, importance of laying down interface doc. Structure early. (NOW!) CK convinced need more effort at MSSL for Sys. Eng.?

Holidays etc up coming next couple of weeks - could be people away.

About the next consortium meeting. Need opto-mechanical interaction, therefore need to allow certain maturity of those designs, but not too late either. Mid-May felt to be best.

(NB UK Steering cttee 27th May) Suggest 11/12 May??

Next Telecon: Thursday 8th April 4pm BST.

(end of note)