EIS Teleconference

NRL: GAD, CMB, JTM, KD

MSSL: JLC, MWT, CJM, LKHM

Thursday, April 16th 1999

EIS-meet-sdt-tc1003

Minutes by MWT

Design Studies

GAD reported that - Roger Thomas, Charlie Brown & Co. had continued to explore the design of the off-axis paraboloid spectrometer. This exercise is essentially an optimisation of the existing OAP design. The design has now evolved to a set of designs, collectively called EIS-5, which differ in minor details. A particular advantage of the current concept was that it offered 1"-per-pixel type resolution.

The Grating diameter was much smaller than the original baseline concepts, a Grating area of a factor of four less, this is obviously very attractive.

Given the need to have back-up grating solutions both Toroidal and SVLS grating options were explored. In looks like that these two options are not compatible with each other in terms of optical layout. We probably want to have two chances of fabricating an SVLS grating as a way of mitigating the risk of receiving a badly performing grating.

NRL will soon (next week ~20th April) send a description of the current design, with a relevant drawings and ray trace plots to MSSL, who will then circulate it to other members of the consortium. There should probably be general agreement on the basic political concept before the end of April. The May meeting should focus on refinement of the basic concept (accomodation etc).

Testing of composite component

It was reported that John Seely would soon be in a position to test the composite sample in the presence of witness mirrors etc. It was expected that he would be able to do this in the first or second week of May.

Detector multiplicity to cope with two wavelength ranges

MSSL are continuing to look at the implications of having two wavelength ranges.

CJM had consulted EEV on the likely detector costs.

The electronics group at MSSL were looking at the different ways of constructing a double-camera system. It was probable that the rest of this month would be required to determine the tradeoffs.

Having two detectors might make the shutter plate excessively large and difficult to accommodate. It was nonetheless thought that a shutter is required since the dynamic range - including the flux during flares - would cause unacceptable image smearing if a frame transfer CCD were to be used. LKHM would study the fluxes in flare events to determine the onset of smearing.

In all areas, the issue is "do the scientific advantages of having two wavelength bands justify the cost, risk and physical resources implied". There was a brief discussion on the use of a two-band spectrometer. It was felt that simultaneity of exposure was very important, followed by the desire to maintain high observational cadence (i.e. the former takes priority).

Requirements Definition

MWT mentioned that firm requirements need to be derived for each component of EIS - not least so that a reasonable NASA contract to NRL could be formed by Larry Hill.

There is already a draft set of system requirements in existence. LKHM will take this on and seek input from the science community of EIS. Refer to "System Requirements" *EIS-sys-sysreq*. One of the main things missing from this is an expression of the relative prioritization of the various aspects of the desired performance of EIS.

Arrangement for future meetings

Next telecon 4 pm BST Thursday, 22 April 1999

Engineering Design Meeting. NRL 18/19 May. Tuesday (18) start better to allow travel on Monday. MWT will continue to gather support.

Consortium Meeting. Tuesday start also preferred for the same reason. At least one other person has already expressed a preference for Tuesday. 15/16 June. Please forward expected numbers of attendees to Matthew Whyndham and George Simnett.